Zoological Record

Vol. 94, Sect. 18, 1957

MAMMALIA

COMPILED BY

R. W. HAYMAN, F.Z.S.

LONDON
PUBLISHED BY
THE ZOOLOGICAL SOCIETY OF LONDON

PRICE TEN SHILLINGS

February, 1959

SEPARATE SECTIONS OF THE ZOOLOGICAL RECORD

In addition to the complete bound volume, the separate Sections may be obtained singly, bound in printed paper covers.

The following are the Sections and their prices, viz.:—

		s.	d.
1.	Comprehensive Zoology	3	0
2.	Protozoa	10	0
3.	Porifera	2	0
4.	Coelenterata	4	0
5.	Echinoderma	4	0
6.	Vermes	10	0
7.	Brachiopoda	4	0
8.	Bryozoa	2	6
9.	Mollusca	10	0
10.	Crustacea	6	6
11.	Trilobita	5	0
12.	Arachnida	10	0
*13.	Insecta	50	0
14.	Protochordata	2	0
15.	Pisces	8	6
16A.	Amphibia	6	0
16B.	Reptilia	7	6
17.	Aves	10	0
18.	Mammalia	10	0
19.	List of New Genera and Subgenera	4	0

* Obtainable only from the Commonwealth Institute of Entomology, 56, Queen's Gate, London, S.W.7.

18. MAMMALIA

COMPILED BY

R. W. HAYMAN, F.Z.S.

CONTENTS

PAGE

I. Titles 2

II. Subject Index 63

General Literature and History, p. 63; Structure, p. 64; Physiology, p. 66; Reproduction and Sex, p. 69; Development, p. 70; Evolution and Genetics, p. 70; Ecology and Habits, p. 71; Distribution and Faunas, p. 74; Geological (Fossil Faunas), p. 78.

III. Systematic Index 79

Monotremata, p. 79; †Multituberculata, p. 79; †Triconodonta, p. 79; Marsupialia, p. 79; Insectivora, p. 80; Chiroptera, p. 82; Primates, p. 86; Edentata, p. 88; Pholidota, p. 89 ; Lagomorpha, p. 89; Rodentia, p. 90; Cetacea, p. 97; Carnivora, p. 99; †Condylarthra, p. 103; †Litopterna, p. 103; †Notoungulata, p. 103; Tubulidentata, p. 103; †Pantodonta, p. 104; †Dinocerata, p. 104; Proboscidea, p. 104; Hyracoidea, p. 105; Sirenia, p. 105; Perissodactyla, p. 105; Artiodactyla, p. 106.

© Zoological Society of London, 1959.

I.—TITLES.

Direction 79. Substitution on the *Official List of Specific Names in Zoology* of the specific name *brasiliensis* Gmelin (J. F.) 1788, as published in the combination *Mustela lutris* var. *brasiliensis*, for the specific name *sambachii* Gray (J. E.), 1837, as published in the combination *Pteronura sambachii* (Class Mammalia) (*Direction* supplementary to *Opinion* 384). Opin. int. Comm. zool. Nom. **16** : 455–464.

Opinion 445. Rejection for nomenclatorial purposes of the work by Eberhard (J. P.) entitled *Versuch eines neuen Entwurfs der Thiergeschichte* published in 1768. Opin. int. Comm. zool. Nom. **15** : 191–198.

Opinion 451. Use of the Plenary Powers to secure that the specific name *dingo* Meyer, 1793, as published in the combination *Canis dingo*, shall be the oldest available name for the Dingo of Australia (Class Mammalia). Opin. int. Comm. zool. Nom. **15** : 329–338.

Opinion 452. Addition to the *Official List of Specific Names in Zoology* of the specific name *australis* Kerr, 1792, as published in the combination *Canis australis*, as the oldest available name for the Falkland Islands Wolf (Class Mammalia). Opin. int. Comm. zool. Nom. **15** : 339–346.

Opinion 460. Validation under the Plenary Powers of the generic name *Muntiacus* Rafinesque, 1815, and designation for the genus so named of a type species in harmony with accustomed usage (Class Mammalia). Opin. int. Comm. zool. Nom. **15** : 455–474.

Opinion 462. Addition to the *Official List of Generic Names in Zoology* of the generic name *Mormoops* Leach, 1820 (Class Mammalia). Opin. int. Comm. zool. Nom. **16** : 1–12.

Opinion 464. Action under the Plenary Powers to secure (*a*) that the specific name *gambianus* Ogilby, 1835, as published in the combination *Sciurus gambianus* shall be the oldest available name for the Sun Squirrel and (*b*) that the generic name *Heliosciurus* Trouessart, 1880, shall be the oldest available generic name for that species (Class Mammalia). Opin. int. Comm. zool. Nom. **16** : 25–42.

Opinion 465. Validation under the Plenary Powers of the specific name *silvestris* Schreber, [1777], as published in the combination *Felis* (*catus*) *silvestris*, for the European wild cat (Class Mammalia). Opin. int. Comm. zool. Nom. **16** : 43–52.

Opinion 466. Validation under the Plenary Powers of the generic name *Phacochoerus* Cuvier (F.) 1826, as the generic name for the Wart Hog. Opin. int. Comm. zool. Nom. **16** : 53–72.

Opinion 467. Validation under the Plenary Powers of the generic name *Odobenus* Brisson, 1762, as the generic name for the Walrus (Class Mammalia). Opin. int. Comm. zool. Nom. **16** : 73–88.

Anon. (1). Kenya Wild Life Society. First Annual Report 1956. Nairobi, (1957) pp. 1–66, figs.

Anon. (2). Un couple de jeunes pangolins geants nous est venu du Zoo de Barcelone et semble en bonne voie d'acclimatation. Zoo. Antwerp. **23** : 29–30, 2 figs.

Anon. (3). Rat en Muis, Wageningen. Nos. 1–4.

Anon. (4). 8th meeting of the International Whaling Commission. Norsk Hvalfangsttid. **46** : 93–113.

Anon. (5). The world catch 1956. Norsk Hvalfangsttid. **46** : 366–374.

Anon. (6). Whaling operations in the Antarctic, Season 1956/57. Norsk Hvalfangsttid. **46** : 438–462.

Anon. (7). The introduction of vaal ribbok to Addo National Park. Afr. Wild Life **11** : 71–73.

Anon. (8). Notes on some mammals. Changing Scene No. 1 : 21–22.

Anon. (9). Vertical distribution of small mammals. Changing Scene No. 1 : 22–23.

Anon. (10). Mammals. Rep. Lowestoft Fld. Cl. **2** : 22.

Anon (11). Wild and feral mammals. Rep. Lundy Fld. Soc. **1956** [1957] : 58–59.

Anon. (12). Mammals. Nature in Wales **3** : 404–405.

Anon. (13). Bat-banding in Devon. Discovery **18** : 229–231, 3 figs.

Anon. (14). Rounding up koalas: Australian teddy bears being moved from Phillip Island. Ill. Lond. News **231** : 565, 5 photos.

Anon. (15). A great achievement at Whipsnade: the first Indian Rhinoceros to be born in Britain. Ill. Lond. News. **231** : 853 3 photos.

Anon. (16). A remarkable roe head from Dorset. Field **210** : 992 2 figs.

Anon. (17). Koala roundup in Australia. Anim. Kingd. **60** : 142–147, 7 figs.

Anon. (18). The great apes of Kwangsi. New Scient. No. 17 : 8–9.

Anon. (19). The jaw of a great ape. New Scient. No. 18 : 7, 1 fig.

Anon. (20). Biology of hair growth. Nature. Lond. **180** : 592–594.

Anon. (21). Constitution and care of the infant animal. Nature. Lond. **180** : 681–682.

Anon. (22). Behaviour and fate of lymphocytes. Nature, Lond. **180** : 1016–1017.

Abouharb, N. Particularités histologiques et histogenèse des paupières chez les *Meriones* (Rongeurs, Gerbillides). Arch. Anat. micr. Morph. exp. **45** : 354–362, 10 figs.

Ábrahám, A. & Erdélyi, L. Über die Struktur und die Innervation des Reizleitungssystems in Herzen der Säugetiere. Acta biol., Szeged N.S. **3** : 275–308 : 4 pls., 7 figs.

Abrahamsen, N. S. B. *see* Irving.

[**Abramov, V. A. & Musatova, A. S.**] [Control of field mice using poisonous bait scattered from cars.] Trud. Nauch. Issled. Protiv. Inst. Stavropol **1** 1956 : 424–426. [In Russian.]

Abramov, V. A. *see* Bocharnikov.

Adams, C. E. An attempt to cross the domestic rabbit (*Oryctolagus cuniculus*) and hare (*Lepus europaeus*). Nature, Lond. **180** : 853.

Adams, W. E. (1). The carotid sinus complex in the hedgehog, *Erinaceus europaeus*. J. Anat., Lond. **91** : 207–227 6 pls.

Adams, W. E. (2). On the possible homologies of the occipital artery in mammals, with some remarks on the phylogeny and certain anomalies of the subclavian and carotid arteries. Acta anat. **29** : 90–113 6 figs.

[**Adolf, T. A.**] [Dynamics of the area and the number of Saiga]. Kom. Okhr. Prir. **2** : 125–139 4 figs. [In Russian.]

Adolph, E. F. Ontogeny of physiological regulations in the rat. Quart. Rev. Biol. **32** : 89–137 49 figs.

Aellen, V. Les chiropteres africains du Musée zoologique de Strasbourg. Rev. suisse Zool. **64** : 189–214.

Akhtar, S. A. Further notes on the Himalayan mouse-hare, or pika, (*Ochotona rufescens*). J. Bombay nat. Hist. Soc. **54** : 455–457.

Albro, E. R. A giant toothache. Hobbies **38** : 36–38 8 figs.

Alcorn, A. A. *see* Russell.

Aldous, C. M. Fluctuations in pocket gopher populations. J. Mammal. **38** : 266–267 1 fig.

[**Alekperova, N. A.**] [Findings of the fossil *Gazella subgutturosa* in Apsheron peninsula.] Izv. Akad. Nauk Azerb. SSR No. 6 1956 : 43–46 2 figs. [In Russian.]

Alexeeva, L. I. Sur la trouvaille de *Platybelodon grangeri* en Kirghizie. Vertebrata Palasiatica **1** : 215–222 1 pl. [French summary p. 221.]

Ali, S. & Santapau, H. Distribution of the liontailed monkey, (*Macaca silenus* (Linnaeus). J. Bombay nat. Hist. Soc. **53** 1956 : 687.

[**Aliev, F. F.**] [Some data regarding the reproduction and growth of *Procyon lotor*.] Doklady Akad. Nauk Azerb. SSR **12** 1956 : 583–592 5 figs. [In Russian.]

Allan, R. M. *see* Shanks.

Allegranzi, A. & Bartolomei, G. Unghiate di orso speleo nei Colli Berici (Vicenza). Ann. Univ. Ferrara (9) **2** : 207–212 3 figs. [English summary.]

Allen, R. & Neill, W. T. White whales of the Amazon. Nat. Hist. N.Y. **66** : 324–329 8 figs.

Altmann, M. Patterns of social behavior in big game. Trans. N. Amer. Wildl. Conf. **21** 1956 : 538–545.

Altmann, M. *see* Taber.

Altner, H. *see* Kahmann.

Amoroso, E. C. & others. Congenital porphyria in bovines; first living cases in Britain. Nature, Lond. **180** : 230–231 2 figs.

Andersen, J. Studies in Danish hare-populations. I. Population fluctuations. Dan. Rev. Game Biol. **3** (2) : 85–131 10 figs.

Anderson, K. H. & Shapiro, J. The effects of flooding on a small marsh in Central Connecticut. Amer. midl. Nat. **57** : 483–492 1 fig.

Anderson, S. New records of the bat, *Anoura geoffroyi lasiopyga*. Nat. Hist. Misc. No. 159 : 1–3.

Anderson, S. & Russell, R. J. Color and dental abnormalities in an *Aplodontia*. Trans. Kansas Acad. Sci. **60** : 181–182 1 fig.

Anderson, S. *see* Hall.

Andrew, A. The early embryonic development of the gerbil, *Tatera brantsi*. S. Afr. J. Sci. **53** : 435–441 1 pl.

Anschau, M., Bernhauer, W. & Kepka, O. Allgemeine faunistische Nachrichten aus Steiermark (IV). Mitt. naturw. Ver. Steiermark **87** : 20–24.

Ansell, W. F. H. (1). Some mammals from Northern Rhodesia. Ann. Mag. nat. Hist. (12) **10** : 529–551.

Ansell, W. F. H. (2). Northern Rhodesia's protected animals. Afr. wild Life **11** : 19–28 figs.

Appelman, F. J. Noch einige Worte über *Theropithecus gelada* Rüpp. Zool. Gart. Lpzg. **23** : 246–247 2 figs.

Arambourg, C. (1). Une 3ème mandibule d' " *Atlanthropus* " decouverte à Ternifine. Quaternaria **3** 1956 [1957] : 1–4 3 pls.

Arambourg, C. (2). Sur des restes d'*Hipparion sitifense* Pomel, des calcaires lacustres de Mascara (Oran). Bull. Soc. géol. Fr. (6) **6** : 817–827 1 pl. figs.

Arambourg, C. (3). Observations sur les Gazelles fossiles du Pléistocène Supérieur de l'Afrique du Nord. Bull. Soc. Hist. nat. Afr. N. **48** : 49–81 2 pls. 5 figs.

Arentsen, V. G. Rawson de. El pichihormiguero, contribucion a su conocimiento y estudio. Rev. Mus. Hist. nat. San Rafael **1** 1956 : 25–32 3 figs.

Arsenyev, V. A. Observations on the seals of the Antarctic. Bull. Soc. Nat. Moscou. Biol. **62** : 39–44 3 figs. [Russian with English summary.]

Ash, C. E. Weights and oil yields of Antarctic humpback whales. Norsk Hvalfangsttid. **46** : 569–573.

Ashcraft, G. & Reese, D. An improved device for capturing deer. Calif. Fish Game **43** : 193–199 5 figs.

Ashton, E. H. (1). Age changes in dimensional differences between the skulls of male and female apes. Proc. zool. Soc. Lond. **128** : 259–265.

Ashton, E. H. (2). Age changes in the basicranial axis of the Anthropoidea. Proc. zool. Soc. Lond. **129** : 61–74 2 figs.

Ashton, E. H. (3). The use of quantitative methods in the study of primate evolution. Scientia, Bologna **92** : 232–238 1 fig.

Ashton, E. H., Eayrs, J. T. & Moulton, D. G. (1). Olfactory acuity in the dog. Nature, Lond. **179** : 1069–1070 1 fig.

Ashton, E. H., Healy, M. J. R. & Lipton, S. (2). The descriptive use of discriminant functions in physical anthropology. Proc. roy. Soc. **146B** : 552–572 11 figs.

Astre, G. Présence de l'Elan à Caylux dans la faune terminale des poches à phosphorites du Quercy. Mammalia, Paris **21** : 238–240.

Austin, C. R. Fertilization, early cleavage and associated phenomena in the field vole (*Microtus agrestis*). J. Anat., Lond. **91** : 1–11 3 pls.

Austin, C. R. & Bishop, M. W. H. Fertilization in mammals. Biol. Rev. **32** : 296–349 1 pl. figs.

Austin, C. R. *see* Bishop.

Avila-Pires, F. D. de. Um novo genero para o " cervo " ou " veado do Pantanal " (Ruminantia—Cervidae). Bol. Mus. Nac. Rio de Janeiro, zool. No. 153 : 1–10.

Babault, G. Comportement des animaux dans les Parcs du Kénya. Mammalia, Paris **21** : 306–307.

[**Babenishev, V. P.**] [Material regarding the distribution of *Citellus pygmaeus* and its changes in Ante-Caucasus.] Trud. Nauch. Issled. Protiv. Inst. Stavropol **1** 1956 : 372–378 map. [In Russian.]

Bachler, H. Die Altersgliederung der Höhlenbärenreste im Wildkirchli, Wildenmannlisloch und Drachenloch. Quartär. **9** : 131–146 1 pl.

Backhouse, K. M. & Hewer, H. R (1). A note on spring pupping in the grey seal (*Halichoerus grypus* Fab.). Proc. zool. Soc. Lond. **128** : 593–594.

Backhouse, K. M. & Hewer, H. R. (2). Behaviour of the grey seal (*Halichoerus grypus* Fab.) in the spring. Proc. zool. Soc. Lond. **129** : 450 1 pl.

Backhouse, K. M. *see* Hewer.

Bader, R. S. Two Pleistocene mammalian faunas from Alachua County, Florida. Bull. Fla. St. Mus. **2** : 53–75 6 figs.

Baer, M. J. *see* Moss.

Baffoni, G. M. (1). Il nucleo della cellula nervosa dei Vertebrati. Osservazioni sui Mammiferi. Rend. Accad. Naz. Linc. (8) **20** 1956 : 125–129 1 pl.

Baffoni, G. M. (2). Contributo alla conoscenza della morfogenesi e dell' istogenesi cerebellare. Arch. Zool. Ital. **41** 1956 : 1–113 9 pls.

[**Bakeev, N. N.**] [The rate of recuperation in number of *Meriones* after being lowered by human activity or adverse natural conditions.] Trud. Nauch. Issled. Protiv. Inst. Stavropol **1** 1956 : 414–423. [In Russian.]

[**Bakeev, N. N., Bocharniskov, O. N. & Zakharenko, S. K.**] [Zinc-phosphite as controlling chemical against rodents.] Trud. Nauch. Issled. Protiv. Inst. Stavropol. **1** 1956 : 387–391. [In Russian.]

Baker, G. A. *see* Mankins.

Baker, H. G. & Harris, B. J. The pollination of *Parkia* by bats and its attendant evolutionary problems. Evolution **11** : 449–460 5 pls. 1 fig.

Baker, R. H. *see* Findley.

Balcells, E. & Palaus, X. Sucesivos casos de Albinismo en ardillas del Pirineo español. Bol. Soc. esp. Hist. nat. Secc. Biol. **55** : 157–158 1 fig.

Baldwin, J. T. An early report of a fertile female mule. J. Heredity **48** : 29–30.

Balser, D. S. *see* Doll.

Bandy, P. J., Kitts, W. D., Wood, A. J. & Cowan, I. McT. The effect of age and the plane of nutrition on the blood chemistry of the Columbian black-tailed deer (*Odocoileus hemionus columbianus*). B. Blood glucose, non-protein nitrogen, total plasma protein, plasma albumin, globulin and fibrinogen. Canad. J. Zool. **35** : 283–289.

Banerji, A. Further observations on the family life of the five-striped squirrel, *Funambulus pennanti* Wr. J. Bombay nat. Hist. Soc. **54** : 335–343.

Banfield, A. W. F. (1). The plight of the barren-ground caribou. Oryx **4** : 5–20 3 pls. 4 maps.

Banfield, A. W. F. (2). Caribou investigations in the Canadian arctic. Polar Rec. **8** : 371–372.

Banfield, A. W. F. (3). Records of two microtine rodents from the Quebec tundra. Canad. Fld. Nat. **70** : 99.

[**Bannikov, A. G. & Lebedeva, L. S.**] [The importance of deer in the Belorezhe Forest reservation.] Bull. Soc. Nat. Moscow biol. **61** 4 1956 : 75–80 2 fig. [In Russian.]

Baranovskaya, T. N. Transfer of the rodents by transportation. Zool. Zh. **36** : 752–761. [Russian with English summary.]

Baranova, G. T. On the application of Allen's Rule to Mouselike rodents. Vestn. leningr. Univ. No. 15 : 10–20 4 figs. [English summary.]

Barbehenn, K. R. & New, J. G. Possible natural intergradation between prairie and forest deer mice. J. Mammal. **38** : 210–218 1 pl. 2 figs.

Barber, A. A. *see* Jones, J. K.

Barbour, R. W. Some additional mammal records from Kentucky. J. Mammal. **38** : 140–141.

Barbu, P., Boldor, St. & Popescu, A. *Eptesicus serotinus* Schreb în fauna de Chiropteren a Republiciă Populare Romîne. An. Univ. "C. J. Parbon," Bucureşti. Ser. Sti. Nat. **15** : 133–140 7 figs. [French summary.]

Barker, S., Main, A. R. & Sadleir, R. M. Recent capture of the Quokka (*Setonyx brachyurus*) on the mainland. W. Aust. Nat. **6** : 53–55.

Barnes, A. D. & Krohn, P. L. The estimation of the number of histocompatibility genes controlling the successful transplantation of normal skin in mice. Proc. roy. Soc. **146B** : 505–526 2 pls. 2 figs.

Barnett, S. A. The rat's world. Discovery **18** : 293–298 8 figs.

Barnicoat, C. R. Wear in sheep's teeth. N.Z. J. Sci. Tech. **38A** : 583–632 16 figs.

Baron, A., Stewart, C. N. & Warren, J. M. Patterns of social interaction in cats (*Felis domestica*). Behaviour **11** : 56–66.

Barr, M. L. *see* Moore.

Barrett, J. H. *see* Bassindale.

Barrington, B. & others. Notes and observations. Trans. Suffolk Nat. Soc. **10** : 76–78.

Barth, E. K. Birds and mammals of the Rondane area, Norway. K. Norske vidensk. Selsk. Årbok **1955** 1956 : 5–43 figs. [English summary.]

Bartholomew, G. A. and Cade, T. J. Temperature regulation, hibernation, and aestivation in the little pocket mouse, *Perognathus longimembris*. J. Mammal. **38** : 60–72 13 figs.

Bartolomei, G. *see* Allegranzi.

[Bashenina, N. V.] (1). [Influence of the air under the snow-cover on the arrangement of vole winter burrows.] Zool. Zh. **35** 1956 : 940–942 1 fig. [In Russian.]

[Bashenina, N. V.] (2). [On the feeding of *Lagurus lagurus* Pall. when breeding it in captivity.] Zool. Zh. **36** : 1882–1895. [English summary.]

Bassindale, R. & Barrett, J. H. The Dale Fort marine fauna. Proc. Bristol Nats.' Soc. **29** : 227–328 3 figs. [Mammals p. 328.]

Bauer, K. (1). Erster Nachweis der Teichfledermaus (*Myotis dasycneme* Boie) für Österreich. Die Höhle **4** 1956 : 89–91. [N. V.]

Bauer, K. (2). Zur Kenntnis der Fledermausfauna Spaniens. Bonn. zool. Beitr. **7** : 296–319 3 figs.

Bauer, K. (3). Neue Funde der Wimperfledermaus, *Myotis e. emarginatus* (Geoffroy, 1806) in Österreich. Säugetierk. Mitt. **5** : 97–100, 1 fig.

[Bayevsky, Y. B.] [Changes in fertility of the Barguzin sable.] Bull. Soc. Nat. Moscow. Biol. **61** 6, 1956 : 15–26 1 fig. [English summary.]

Beatty, R. A. (1). Parthenogenesis and polyploidy in mammalian development. Cambridge Mon. Exp. Biol. No. 7, xi + 132 5 pls.

Beatty, R. A. (2). A pilot experiment with heterospermic insemination in the rabbit. J. Genetics **55** : 325–347.

Beatty, R. A. (3). Chromosome constancy in the corneal epithelium of the mouse. Chromosoma **8** : 585–596 9 figs.

Beauchamp, D. E. & Jones, F. L. A cryptorchid Rocky Mountain mule deer. J. Mammal. **38** : 423.

Beaucournu, J. C. Note sur la répartition de *Rhinolophus euryale* (Blasius) dans l'ouest de la France. Mammalia, Paris **21** : 90–95.

Beck, S. The effect of the mutant hightail in the laboratory mouse. Biol. Rev. City Coll. N.Y. **18** 1956 : 22–28 3 figs.

Becker, F., Markee, J. E. & King, J. E. Studies on olfactory acuity in dogs. I. Discriminatory behaviour in problem box situations. Brit. J. Anim. Behav. **5** : 94–103 3 figs.

Becker, K. Eine neue Methode zur Gewinnung von Knochen aus Gewöllen. Z. Säugetierk. **22** : 242–243.

Bednii, S. N. *see* Dal.

Beer, J. R., MacLeod, C. F. & Frenzel, L. D. Prenatal survival and loss in some cricetid rodents. J. Mammal. **38** : 392–402.

Bekkum, D. W. V. *see* Zaalberg.

Bell, F. R. & Lawn, A. M. (1). The pattern of rumination behaviour in housed goats. Brit. J. Anim. Behav. **5** : 85–89 3 figs.

Bell, F. R. & Lawn, A. M. (2). Disturbance of rumination in the goat after ablation of the orbito-frontal lobes of the cerebral cortex. Brit. J. Anim. Behav. **5** : 125–130 4 figs.

Bemmel, A. C. V. van. Seehund-Schutzgebiete in Holland. Kosmos, Stuttgart. **53** : 510–511 4 figs.

Benedict, F. A. Hair structure as a generic character in bats. Univ. Calif. Publ. zool. **59** : 285–548 9 pls. 4 figs.

Benham, E. Report on Dorset natural history for 1956. Mammals. Proc. Dorset nat. Hist. Soc. **78** : 48–50.

Benson, D. A. Abnormal dentition in white-tailed deer. J. Mammal. **38** : 140.

Bentley, A. A brief account of the deer in Australia. J. Wildlife Mgmt. **21** : 221–225. [N. V.]

[**Berendyaev, S. A.**) [Structure of marmot burrows in Kirgizia.] Trud. Inst. Zool. Parasit. Frunze **5** : 1956 : 51–59 2 figs. [In Russian.]

Bergersen, B. *see* Jahn.

Bergounioux, F. M. & Crouzel, F. Révision de quelques espèces de Mastodontes du Miocène. Bull. Soc. géol. Fr. (6) **7** : 45–59 1 p.l 4 figs.

Bernhauer, W. *see* Anshau.

Bernick, S. The innervation of the teeth and periodontium of the rat. Anat. Rec. **125** 1956 : 185–206 2 pl. 1 fig.

Bernstein, A. D. *see* Karaseva.

Best, P. B. Homing in water voles. Bull. Mammal Soc. Brit. Isles No. 8 : 11–12. [Private circulation.]

Beven, G. The distribution of the grey squirrel in the London area (1953–1956). London Nat. No. 36 (1956) 1957 : 6–11 map.

[**Bibikov, D. I.**] **(1).** [Biological observations on the hedgehogs *Erinaceus auritus* Gm. as reservoirs of the Leptospirae.] Zool. Zh. **35** 1956 : 1059–1063. [English summary.]

[**Bibikov, D. I.**] **(2).** [A new rodent for Soviet fauna.] Priroda No. 6 : 108–109 2 figs. [In Russian.]

Bibikov, D. I. & Stogov, I. I. Ecological laws governing the static distribution of grey marmot colonies in the Tien Shan mountains. Bull. Soc. Nat. Moscow Biol. **62** : 13–18. [English summary.]

Bickel, E. Das Chinchilla-Hotel Von der Chinchillazucht in Deutschland. Kosmos, Stuttgart. **52** 1956 : 156–160 6 figs.

Bigalke, R. (1). Black-faced Impala (*Aepyceros melampus petersi* Bocage) in South-West Africa. Afr. wild Life **11** : 127–128.

Bigalke, R. (2). The ages to which elephants live. Afr. wild Life **11** : 140–142, 1 fig.

Bilton, L. The Chillingham herd of wild cattle. Trans. nat. Hist. Soc. Northumb. N.S. **12** : 137–160 3 pls.

Bischoff, A. I. The breeding season of some Californian deer herds. Calif. Fish Game **43** : 91–96 2 figs.

Bishop, M. W. H. & Austin, C. R. Mammalian spermatozoa. Endeavour **16** : 137–150 58 figs.

Bishop, M. W. H. *see* Austin.

Bisserot, S. C. *see* Blackmore.

Biswas, B. & Khajuria, H. Zoological results of the "Daily Mail" Himalayan Expedition, 1954. Notes on some mammals of Khumbu, eastern Nepal. Proc. zool. Soc. Calcutta, Mookerjee Mem. Vol. 229–253 : 2 pls. 6 figs.

Bize, J. *see* Hauduroy.

Blackmore, M. (1). British bats. Countryside N.S. **18** : 138–142 3 figs.

Blackmore, M. (2). Bats and their journeys. Field **209** : 422–423 7 figs.

Blackmore, M. & Bisserot, S. C. Rare British bats. Ctry. Life. Lond. **122** : 476–478 7 photos.

Blagosklonov, K. N. On the feeding habits and character of daily activity of *Sorex tsherskii* Ognev. Zool. Zh. **36** : 465–467. [Russian with Engl. summary.]

Blair, W. F. Mammals. In Vertebrates of the United States, New York (McGraw Hill) pp. 615–774 83 figs.

Blanc, G. A. Sulla esistenza di *Equus* (*Asinus*) *hydruntinus* regàlia nel Pleistocene de Nord Africa. Boll. Soc. geol. ital. **75** 1956 : 176–199 2 pls.

Blanchet, M. La disparition des castors en Suisse et leur réintroduction. Schweiz. Natursch. **23** : 8–10.

Bloom, J. L., Lane-Petter, W. & Porter, G. Use of wooden boxes for breeding mice. Nature, Lond. **180** : 251.

Bloom, R. T. *see* Hill, W. C. O.

Boback, A. W. Ein Luchs (*Lynx lynx* L.) in Sachsen. Z. Säugetierk. **22** : 241–242.

[**Bocharnikov, O. N. & Abramov, V. A.**] [The problem of the influence of modern agrotechniques on the number of murine rodents in drying zone of Ante-Caucasus.] Trud. Nauch. Issled. Protiv. Inst. Stavropol **1** 1956 : 379–386 4 figs. [In Russian.]

Bocharnikov, O. N. *see* Bakeev.

Bodenheimer, F. S. (1). The ecology of mammals in arid zones. Unesco—Arid zone research, Paris : 100–137 : 2 pls. 12 figs.

Bodenheimer, F. S. (2). Experimental vole populations in 2 sq. m. cages with various initial population density. Bodenheimer, F. S. Studies in Biology and its History. Jerusalem **1** : 24–40 2 pls., 2 figs.

Bodenheimer, F. S. & Dvoretzky, A. A dynamic model for the fluctuation of populations of the Levant Vole, (*Microtus guentheri* D. & A.). Bodenheimer, F. S. Studies in Biology and its History. Jerusalem. **1** : 41–62 6 figs.

Bodenheimer, F. S. & Lasch, W. The primordial egg in the ovary of the adult female of the Levant Vole, (*Microtus guentheri* D. & A.). Bodenheimer, F. S. Studies in Biology and its History. Jerusalem **1** : 9–23 2 pls.

Boerner-Patzelt, D. Das braune Fett der sogenannten Winterschlafdrüse des Igels. Z. mikr. anat. Forsch. **63** : 5–34 17 figs.

Boessneck, J. (1). Zur Grösse des mitteleuropäischen Rehes (*Capreolus capreolus* L.) in alluvial-vorgeschichtlicher und früher historischer Zeit. Z. Säugetierk. **21** 1956 [1957] : 121–131.

Boessneck, J. (2). Funde des Ures, *Bos primigenius* Bojanus, 1827, aus alluvialen Schichten Bayerns. Säugetierk. Mitt. **5** : 55–69 7 figs.

[**Bogdanov, O. P.**] [Bat's hibernation in the Zeravshan Valley.] Zool. Zh. **35** 1956 : 1097–1099. [In Russian.]

Böhme, R. L. Craniological characteristics of the deer *Cervus elaphus brauneri* in comparison with *C. elaphus maral.* Zool. Zh. **36** : 1557–1564 14 figs. [Russian with English summary.]

Boldor, St. *see* Barbu.

Bolle, F. Ein Bild des Davidshirsches von Adolph Menzel. Säugetierk. Mitt. **5**: 127–129 1 fig.

Bolliger, A. *see* Hinks.

Bolognari, A. Sulla biologia del capodoglio. Atti Soc. peloritana **3** : 143–155 1 pl. 2 figs.

Bolwig, N. Some observations on the habits of the Chacma baboon, *Papio ursinus.* S. Afr. J. Sci. **53** : 255–260.

Bond, C. F. Correlations between reproductive condition and skull characteristics of beaver. J. Mammal. **37** : 1956 [1957] : 506–512 2 figs.

Bond, P. A handful of hedgehogs. Ctry. Life, Lond. **122** : 658 fig.

Bonsma, J. C. *vide* Joubert.

Boo-Liat, L. *see* Harrison, J. L.

Boolootian, R. A. (1). Notes on a specimen of the harbor porpoise. J. Mammal. 38 : 265–266, 1 pl.

Boolootian, R. A. (2). Notes on a specimen of *Phocoena vomerina* (Gill), the Harbour Porpoise. Zool. Gart., Lpg. **23** : 227–229 2 figs.

Booth, A. H. Observations on the natural history of the olive colobus monkey, *Procolobus verus* (van Beneden). Proc. zool. Soc. Lond. **129** : 421–430.

Booth, A. H. *see* Hill, W. C. O.

Booth, E. S. Mammals collected in Mexico from 1951 to 1956 by the Walla Walla College Museum of Natural History. Walla Walla Coll. Publ. Washington, 20 : 1–19 maps. [N. V.]

Bortner, S. *see* Elias.

Bortolami, R. & Callegari, E. Le strutture profonde del cuore in alcuni primati. Rev. Biol. **49** : 163–179 4 pls. [Italian with English summary.]

Bose, R. J. *see* Kitts.

Boswell, K. 'Scent trails' and 'pooking' in tiger. J. Bombay nat. Hist. Soc. **54** : 452–454.

Bothschafter, E. Die Alpenspitzmaus (*Sorex alpinus* Schinz, 1837) aus niedriger Höhenlage im Randgebiet des Bayerischen Waldes. Säugetierk. Mitt. **5** : 28–30 1 fig.

Boucher, V. Saving American wild life. Cty. Life, Lond. **122** : 156–158 6 figs.

Bourne, G. H. The ageing of mammalian cells. Symposia Inst. Biol. No. 6: 35–46.

Boursnell, J. C. & Gleeson-White, M. H. Temporary preservation of carcases of small laboratory animals containing radioactive isotopes. Nature, Lond. **179** : 54.

Bowman, J. C. & Cattanach, B. M. A case of gross abnormalities in the house mouse. Proc. R. phys. Soc. Edinb. **25** : 56–58 1 pl.

Boyd, J. M. Aerial studies of a breeding colony of grey seals, *Halichoerus grypus* (Fab.), at Gasker, Outer Hebrides, in 1955 and 1956. Proc. zool. Soc. Lond. **129** : 333–342, 3 pls. 5 figs.

Braden, A. W. H. The relationship between the diurnal light cycle and the time of ovulation in mice. J. exp. Biol. **34** : 177–188 4 figs.

Bradshaw, G. V. R. *see* Gier.

Braekkan, O. R. *see* Njaa.

Brecheisen, W. R. & Legler, J. M. The harvest mouse, *Reithrodontomys montanus griseus*, from southeastern Kansas. Trans. Kansas Acad. Sci. **60** : 90–91.

Brink, A. S. (1). Speculations on some advanced mammalian characteristics in the higher mammal-like reptiles. Palaeont. Africana **4** : 77–96 4 figs.

Brink, A. S. (2). The spontaneous fire-controlling reactions of two chimpanzee smoking addicts. S. Afr. J. Sci. **53** : 241–247 1 fig.

Brodal, A. & Pompeiano, O. The vestibular nuclei in the cat. J. Anat. Lond., **91** : 438–454 1 pl. 3 figs.

Brodar, S. Zur Frage der Höhlenbärenjagd und des Hölenbärenkults in den paläolithischen Fundstellen Jugoslaviens. Quartär. **9** : 147–159.

Brosset, A. Observations sur la biologie des chiroptères du Maroc oriental. Bull. Soc. Sci. nat. Maroc **35** : 295–306.

Browman, L. G. & Hudson, P. Observations on the behavior of penned mule deer. J. Mammal. **38** : 247–253.

Brown, K. G. The leopard seal at Heard Island, 1951–54. Interim Rep. Aust. Nat. Antarct. Res. Exped. No. 16 : 1–34 9 figs.

Brown, P. W. *see* Shanks.

Brown, S. G. Whale marks recovered during the Antarctic whaling season 1956/57. Norsk Hvalfangsttid. **46** : 555–559.

Brown, S. G. *see* Clarke.

[**Brudin, I. D.**] [Migration of susliks in the dry steppes of the Southern Cisurals.] Priroda No. 2 : 111–112. [In Russian.]

Bruel, W. E. van den, Bernard, J. & Ballaerts, D. (1). Lutte contre *Arvicola terrestris* L. Parasitica **13** : 126.

Bruel, W. E. van den, Moens, R. & Bollaerts, D. (2). Une nouvelle méthode de destruction applicable au rat musqué (*Ondatra Zibéthicus* L.). L'asphyxia des nichées par l'hydrogène phosphosé. Parasitica **12** 1956 : 87–114 2 pls., 9 figs.

Bruel, W. E. van den, Vercammen, L. & Moens, R. (3). Une technique de destruction du rat musqué (*Ondatra zibethicus* L.) en cours de migration, par piégeage "systématique" le long des canaux. Parasitica **13** : 72–85 2 figs.

Brunner, G. Die Breitenberghöhle bei Gossweinstein/Ofr. Eine Mindel-Riss- und eine postglaziale Mediterran-Fauna. Neues Jb. Geol. Paläont. B **1957** : 352–378 figs.

Bryk, F. Linné och den moderna genitalforskningen. Zool. Revy **18** 1956 : 9–13 2 figs.

Bubenik, A. (1). Ein Takin, *Budorcas taxicolor bedfordi* Thomas, 1911, in Gefangenschaft. Säugetierk. Mitt. **5** : 169 1 fig.

Bubenik, A. B. (2). Über Atavismen des Geweihes bei Rehböcken und bei Hirschen. Mém. Soc. Zool. Tchècosl. **20** 1956 : 249–268 8 figs. [Czech with German summary.]

Buchanan, G. D. Variation in litter size of nine-banded armadillos. J. Mammal. **38** : 529.

Buckner, C. H. (1). Home range of *Synaptomys cooperi*. J. Mammal. **38** : 132.

Buckner, C. H. (2). Population studies on small mammals of south-eastern Manitoba. J. Mammal. **38** : 87–97 3 figs.

Buechner, H. K. Three additional records of antlered female deer. J. Mammal. **38** : 277–278.

Buechner, H. K. *see* Halayon.

[**Buistrov, A. P.**] [The past, present and future of man.] Leningrad : 1–314 figs.

Bullier, P. *see* Nouvel.

[**Burchak-Abramovich N. O.**] [The rest of *Elephas primigenius* Blum. from the district of Dushethi.] Bull. Mus. Géorgie **13A** 1947 : 303–310 fig. [In Russian with English summary.]

[**Burchak-Abramovich, N. O. & Gabashvili, E. G.**] [A superior Anthropoid from the upper tertiar deposits of the Eastern Georgia.] Bull. Mus. Géorgie **13A** 1947 : 235–273 2 pls. [In Russian with English summary.]

Burckhardt, D. Über das Wintersterben der Hirsche in der Umgebung des Nationalparkes. Schweiz. Natursch. **23**: 1–6.

Burnett, F. L. & Lyman, C. P. Mammals collected at Laguna Ocotal in **Paynter, R. A.** Biological investigations in the Selva Lacandona, Chiapas, Mexico. Bull. Mus. Comp. Zool. Harvard Mass. **116** : 290–298.

Burns, R. K. & L. M. Vie et reproduction de l'opossum Américain *Didelphis marsupialis virginiana* Kerr. Bull. Soc. zool. Fr. **81** : 230–246.

Burt, W. H. Mammals of the Great Lakes region. Michigan (Univ. Michigan Press) : xv + 246 54 figs. [N. V.]

Burton, M. (1). Hedgehog self-anointing. Proc. zool. Soc. Lond. **129** : 452–453 1 pl.

Burton, M. (2). Manatees, not mermaids. Ill. Lond. News **230** : 272 2 photos.

Burton, M. (3). A sleeping mole. Ill. Lond. News **230** : 394.

Burton, M. (4). Are rabbits changing habits? Ill. Lond. News **230** : 818 2 fig.

Burton, M. (5). Rufus, the wonderful hedgehog. Ill. Lond. News **230** : 948 8 photos.

Burton, M. (6). Tales of two squirrels. Ill. London. News **231** : 800 2 figs.

Burton, M. (7). Badgers' warnings. Ill. Lond. News **231** : 900 2 figs.

Butler, H. The breeding cycle of the Senegal Galago, *Galago senegalensis senegalensis*. Proc. zool. Soc. Lond. **129** : 147–149.

Butler, P. M. & Hopwood, A. T. Insectivora and Chiroptera from the Miocene Rocks of Kenya Colony. Fossil Mammals of Africa No. **13** : 1–35 10 figs.

Butterworth, B. E. *Phocoenoides dalli* washed ashore in California. J. Mammal. **38** : 126.

Caboú, K. Untersuchungen über die saisonale Veränderlichkeit des Gehirnes bei der kleinen Spitzmaus (*Sorex minutus minutus* L.). Ann. Univ. M. Curie-Skłodowska **10C** 1956 : 93–115.

Cabrera, A. Los Gliptodontoideos de Araucaniaro de Catamarca. Rev. Mus. La Plata. Pal. **3** 15 1944 : 5–76 25 figs.

Cachan, P. Confirmation de la présence du Pangolin géant en Basse Côte d'Ivoire. Mammalia, Paris **21** : 455–457.

Cade, T. J. *see* Bartholomew.

Cadenat, J. & Paraiso, F. Nouvelle observation de *Sotalia* (Cétacé, Delphinidé) sur les côtes du Sénégal. Bull. Inst. franç. Afr. N. **19A** : 324–332 3 figs.

Cadman, W. A. Vole damage in Wales 1956. Nature in Wales **3** : 504–507.

Calaby, J. H. A new record of the scaly-tailed possum (*Wyulda squamicaudata* Alexander). W. Aust. Nat. **5** : 186–191 2 figs.

Caldwell, D. K., Layne, J. N. & Siebenaler, J. B. Notes on a killer whale, (*Orcinus or a*) from the northeastern Gulf of Mexico. Quart. J. Fla. Acad. Sci. **19** : 189–196 3 figs.

Calhoun, J. B. Behaviour of house mice with reference to fixed points of orientation. Ecology **37** 1956 : 287–301 6 figs.

Callegari, E. *see* Bortolami.

Cameron, A. W. A new black bear from Newfoundland. J. Mammal. **37** 1956 [1957] : 538–540 1 pl. 1 fig.

Campbell, G. Rhino on two legs. Field **209** : 570.

Cannonge, B. *see* Constant.

Cantuel, P. *see* Didier.

Capurro, S. L., & Rosenmann, M. Formacion de anticuerpos en *Cricetus auratus* (Golden hamster). Invest. Zool. Chil. **3** : 111–113.

Carne, P. H. *see* Page.

Carter, T. D. The opossum—our only pouched mammal. Nat. Hist. N.Y. **66** : 204–209, 224 12 figs.

Carvalho, C. T. De (1). Nova subspécie de saguim da Amazônia (Callithricidae, Primates). Rev. bras. Biol. **17** : 219–222 2 figs.

Carvalho, C. T. de (2). Alguns mamiferos do Acre ocidental. Bol. Mus. Para. Emilio Goeldi, Zool. No. 6 : 1–22 1 fig.

Castejon, R. Razas primitivas caballares de la peninsula Ibérica (Former equine races in the Iberian peninsula.) Arch. Zootec. **2** No. 5 1953 : 3–10 4 figs.

Castiglioni, O. C. Appunti sulla presenza di un grande Felide pleistocenico nella fauna cavernicola Lombarda. Natura. Milano **48** : 130–135 1 fig.

Cattanach, B. M. *see* Bowman.

Chabovsky, V. I. *see* Ganeshina.

Chai, C. K. (1). Developmental homeostasis of body growth in mice. Amer. Nat. **91** : 49–55.

Chai, C. K. (2). Analysis of quantitative inheritance of body size in mice III. Dominance. Genetics **42** : 601–607.

Chamberlain, D. M. *see* Chute.

Chamberlain, N. V. *Thomomys bottae aureiventris* Hall from Nevada. J. Mammal. **38** : 267.

Chang, H-C. On new material of some Machairodonts of Pontian age from Shansi. Vertebrata Palasiatica **1** : 193–200 4 pls. 2 figs.

Chang-Kong, H. *see* Chow.

Chard, J. S. R. Deer as a forester's problem. Bull. Mamm. Soc. Brit. Is. No. 7 : 9–13. [Private circulation.]

Chard, J. S. R. *see* Page.

Charles, R.-P. Morphologie dentaire du thar et du bouquetin especes actuelles et subfossiles des gisements préhistoriques. Mammalia, Paris **21** : 136–141 2 figs.

Charlesworth, J. K. The Quaternary Era, with special reference to its glaciation. Vol. 1 : xlvii 1–592; Vol. 2 : xxxi 593–1700; 32 pls. 326 figs. map. [Mammals, Vol. 2 : 788–896.] London 1957.

Chauhan, N. S. *see* Krishnaswami.

Chermock, R. L. A preliminary report on the black bear in Alabama. J. Ala. Acad. Sci. **29** : 34–35.

[**Chernyak, S. S.**] [Influence of cold storage of sperm on the sexes in progeny of rabbit.] Dopovidi Akad. Nauk. Ukrain SSR No. 4, 1956 : 408–413. [In Ukrainian. Russian summary.]

[**Chernyavskaya, S. I.**] [Observations on the seasonal distribution and migrations of wild hoofed animals and bears in the area of the Caucasian Reservation in connection with the distribution of the wild fruit and nut harvest.] Bull. Soc. Nat. Moscow biol. **61** 4 1956 : 7–21 5 figs. [English summary.]

Chew, R. M. & Hinegardner, R. T. Effects of chronic insufficiency of drinking water in white mice. J. Mammal. **38** : 361–374 3 figs.

Chia, L-P. Notes on the human and some other mammalian remains from Changyang, Hupei. Vertebrata Palasiatica **1** : 247–257 4 pls. [English summary p. 252.]

Chia, L. P. & Chai, J. C. Quaternary mammalian fossils from Chihcheng, Hopei. Vertebrata Palasiatica **1** : 47–55 3 pls. 2 figs. [English summary p. 52.]

Chiasson, R. B. The dentition of the Alaskan fur seal. J. Mammal. **38** : 310–319 7 figs.

Chirkova, A. F. Distribution of the sarcoptic mange among foxes of the USSR in relation to the geographical factors. Zool. Zh. **36** : 773–786. [Russian with English summary.]

Chittleborough, R. G. & Godfrey, K. A review of whale marking and some trials of a modified whale mark. Norsk Hvalfangsttid. **46** : 238–248 2 figs.

Chopra, S. R. K. The cranial suture closure in monkeys. Proc. zool. Soc. Lond. **128** : 67–112, 8 figs.

Choubert, G. & Ennouchi, E. Un nouvel éléphant Villafranchien au Maroc. Notes Serv. Min. Maroc No. 121 1954 : 25–27 1 pl.

Chow, M. M. (1). Villafranchian mammals from Tongshanchen Basin, southern Shansi. Act. Paleont. Sinica **2** 1954 : 333–342 figs. [N.V.]

Chow, M. M. (2). Notes on some mammalian fossils from the late Cenozoic of Sinkiang. Vertebrata Palasiatica **1** : 33–41 5 figs.

Chow, M. M. (3). Note on a small collection of Pleistocene mammalian fossils from Tungnan, Szechuan. Vertebrata Palasiatica **1** : 57–58 1 pl. [English summary p. 58.]

Chow, M. M. (4). On some Eocene and Oligocene mammals from Kwangsi and Yunnan. Vertebrata Palasiatica **1** : 201–214 2 pls. 4 figs.

Chow, M. M. & Chang-kong, H. The occurrence of *Anchitherium aurelianense* at Fangshan, Nanking. Acta palaeont. Sinica **4** 1956 : 525–534 1 pl. 2 figs. [Eng. summary pp. 531–533.]

Chow, M. M. *see* Young.

Chowhan, N. S. *see* Krishnaswami.

Christian, J. J. Adrenal and reproductive responses to population size in mice from freely growing populations. Ecology **37** 1956 : 258–273 9 figs.

Christian, J. J. & Davis, D. E. The relationship between adrenal weight and population status of urban Norway rats. J. Mammal. **37** 1956 [1957] : 475–486 1 fig.

Christoph, H.-J. Zur Behandlung epileptiformes Anfälle bei Affen. Zool. Gart., Lpz. **23** : 65–67.

Chu, E. H. Y. & Giles, N. H. A study of primate chromosome complements. Amer. Nat. **91** : 273–282 8 figs.

[**Chugunov, Y. D., Kudryashova, N. I. & Chugunov, N. D.**] [Peculiarities in thermoregulation in steppe and mountain mammals of Northern Caucasus.] Trud. Nauch.-Issled. Protiv. Inst. Stavropol **1** 1956 : 265–276 2 figs. [In Russian.]

Chugunov, Y. D. *see* Dal.

Church, H. F. The times of emergence of the Pipistrelle. Proc. zool. Soc. Lond. **128** : 600–602 1 fig.

Chute, H. L. & Chamberlain, D. M. Lymphangioma in the white-tailed deer. *Odocoileus virginianus*. J. Mammal. **37** 1956 [1957] : 552–554 1 pl.

Ćirić, A. Pikermiska Fauna iz Okoline Titorog Velesa. Glasn. Muz. sopsk. Zeml. **A8** : 1–82 30 pls.

Clark, W. K. Seasonal food habits of the Kodiak bear. Trans. N. Amer. Wildl. Conf. **22** : 145–151.

Clarke, E. G. C. & Hawkins, A. E. Appraisement of total activity in laboratory animals. Nature, Lond. **179** : 1361.

Clarke, R. Migrations of marine mammals. Norsk Hvalfangsttid. **46** : 609–630 10 figs.

Clarke, R. & Brown, S. G. International co-operation in Antarctic whale marking from 1945 to 1957. Norsk Hvalfangsttid. **46** : 513–517.

Cleland, K. W. *see* Reid.

Clothier, R. R. A second dwarf shrew from New Mexico. J. Mammal. **38** : 256.

Cloutier, R. J. *see* Hall.

Coaker, G. O. Live rabbit without fur. Field **210** : 772.

Cockrum, E. L. New genus and species, *Idionycteris phyllotis* recorded from the United States. J. Mammal. **37** 1956 [1957] : 546–547.

Coimbra, A. Vascularisation de la moelle épinière du Cobaye. Acta anat. **29** : 314–322 7 figs.

Cole, F. J. The history of Albrecht Dürer's rhinoceros in zoological literature. Underwood, E. A., Ed. Science, Medicine & History, London **1** 1953 : 337–356 24 figs.

Cole, J. The monkey, *Macaca nemestrina* as a research subject. Behaviour **11** : 202–208 3 figs.

Collias, N. E. The analysis of socialization in sheep and goats. Ecology **37** 1956 : 228–239.

Colyer, Sir F. & Miles, A. E. W. Injury to and rate of growth of an elephant tusk. J. Mammal. **38** : 243–247 2 figs.

Comfort, A. Survival curves of mammals in captivity. Proc. zool. Soc. Lond. **128** : 349–364 7 figs.

Condy, W. Mammals recorded in an area of West Wales. Nature in Wales **3** : 460–463 map.

Conisbee, L. R. Notes on the local fauna and flora for 1956. Hastings Nat. **8** : 211–212.

Conklin, A. *see* Eads.

Connor, P. F. A method of plant dispersal by a mammal. Ecology **38** : 151–152.

Constant, P. Contribution à l'etude du minioptere. Trav. lab. Zool. Dijon **22** : 24–31.

Constant, P. & Cannonge, B. Evaluation de la vitesse de vol des Minioptères. Mammalia, Paris **21** : 301–302.

Constantine, D. G. Color variation and molt in *Tadarida brasiliensis* and *Myotis velifer*. J. Mammal. **38** : 461–466 2 figs.

Conti, S. Alcune considerazioni sul recente lavoro di D. P. Erdbrink "A review of fossil and recent bears of the Old World." Ann. Mus. Stor. nat. Genova **68** 1956 : 107–113.

Cooke, H. B. S. *see* Wells.

Copeman, P. W. M. Eagle hunting a deer calf. Ctry. Life, Lond. **122** : 1101.

Coque, R. Découverte d'un gisement de Mammifères villafranchiens dans le Sud-Tunisien. C.R. Acad. Sci. Paris **245** : 1069–1071.

Couto, C. de P. *see* Simpson.

Couturier, M. A. J. Trophée d'isard (*Rupicapra rupicapra pyrenaica* Bonaparte 1845) record des Pyrénèes françaises espagnoles et andorrannes. Mammalia, Paris **21** : 381–384 1 pl.

Cowan, I. McT., Wood, A. J. & Kitts, W. D. Feed requirements of deer, beaver, bear and mink for growth and maintenance. Trans. N. Amer. Wildl. Conf. **22** : 179–188.

Cowan, I. McT. *see* Bandy.

Cowan, I. McT. *see* Kitts.

Cranbrook, Lord. Long-tailed field mice (*Apodemus* sp.) from the Channel Islands. Proc. zool. Soc. Lond. **128** : 597–600.

Crary, D. D. & Sawin, P. B. Morphogenetic studies of the rabbit. XVIII. Growth of ossification centers of the vertebral centra during the 21st day. Anat. Rec. **127** : 131–150 5 figs.

Crary, D. D. *see* Sawin.

Cresswell, E. A new technique for climatological, nutritional and energy metabolism studies with ruminants. Nature, Lond. **179** : 1139–1140.

Criddle, S. Drummond's vole in Manitoba. Canad. Fld. Nat. **70** 78–84 1 fig.

Cringan, A. T. History, food habits and range requirements of the woodland caribou of continental North America. Trans. N. Amer. Wildl. Conf. **22** : 485–501 3 figs.

Crouzel, F. *see* Bergounioux.

Crowcroft, P. The life of the shrew. London (Max Reinhardt) : pp. vi + 166, frontis., 9 figs.

Crowcroft, P. & Rowe, F. P. The growth of confined colonies of the wild house-mouse (*Mus musculus* L.) Proc. zool. Soc. Lond. **129** : 359–370 1 fig.

Crowcroft, Mrs. *see* Godfrey.

Crunden, C. W. & Hendrickson, G. O. Evaluation of techniques in estimating a Mearns cottontail population. Proc. Iowa Acad. Sci. **62** 1955 : 498–501.

Crusafont Pairo, M. Otro nuevo Condilarto del Luteciense Pirenaico. Boll. Soc. geol, ital. **75** 1956 : 42–47 figs.

Crusafont Pairo, M. & Truyols Santonja, J. Descubrimiento del primer yacimiento de mamiferos miocénicos de la cuenca valenciana. Notas y Comun. Inst. Geol. Min. Espana. No. 48 : 3–20 4 figs.

Crusafont-Pairo, M. & Villalta Comella, J. F. de. Sobre la verdadera situacion sistematica del genero *Almogaver*. Consejo Sup. Invest. Cient. Estud. Geol. **26** 1955 : 223–229. [N. V.]

Cullen, A. Inquiry into Serengeti. Field, **210** : 423–429 6 figs.

Curry-Lindahl, K. Djuren i Farg. Daggdjur-Kräldjur-Groddjur. Stockholm (Almqvist & Wiksell) 1955 pp. 172 63 pls. col. [incl. in pagination.]

Cutter, W. L. A young jaguarundi in captivity. J. Mammal. **38** : 515–516.

Dairokuno, A. *see* Uda.

[Dal, S. K. & Chugunov, Y. D.] [*Sicista betulina* in Stavropol region—ecological-geographical outline.] Trud. Nauch. Issled. Protiv. Inst. Stavropol **1** 1956 : 354–371 2 figs. [In Russian.]

[Dal, S. K. & Gusev, V. M. & Bednii, S. N.] [Influence of 1953–1954 winter on the condition, number and distribution of saiga in the western Pre Caspian.] Trud. Nauch. Issled. Protiv. Inst. Stavropol **1** 1956 : 430–440 map.

Dalquest, W. W. (1). Observations on the sharp-nosed bat, *Rhynchiscus naso* (Maximilian). Texas J. Sci. **9** : 219–226.

Dalquest, W. W. (2). First record of *Bison alleni* from a late Pleistocene deposit in Texas. Texas J. Sci. **9** : 346–354 1 fig.

Dalquest, W. W. (3)' American bats of the genus *Mimon*. Proc. biol. Soc. Wash. **70** : 45–47.

Dandelot, P. Sur la présence au Tonkin de la forme typique de l'Ecureuil à Ventre Rouge, *Callosciurus erythraeus erythraeus* Pallas. Mammalia, Paris **21** : 191–193.

Darlington, D. The convolutional pattern of the brain and endocranial cast in the ferret (*Mustela furo* L.) J. Anat., Lond. **91** : 52–60 2 pls. 2 figs.

Dart, R. A. (1). An australopithecine object from Makapansgat. Nature, Lond. **179** : 693–695 2 figs.

Dart, R. A. (2). The osteodontokeratic culture of *Australopithecus prometheus*. Transvaal Mus. Mem. No. 10 : viii + 105. [N. V.]

Dasmann, R. F. Fluctuations in a deer population in California chaparral. Trans. N. Amer. Wildl. Conf. **21** 1956 : 487–499 1 fig.

Dasmann, R. F. *see* Taber.

Daum, J. *see* Husson.

Davidović, M. Température léthale des hibernants refroidis. Glasn. sopsk. Akad. Nauk. **222** Od. Prirod.-Nat. Nauk. N.S. **10** 1956 : 115–120. [French summary.]

Davidović, M. & Popesković, D. Essai de provocation artificielle du sommeil hibernal chez les hibernants. Glasn. sopsk. Akad. Nauk. **222** Od. Prirod.-Nat. Nauk. N.S. **10** 1956 : 105–113. [French summary.]

Davies, J. L. (1). A hedgehog road mortality index. Proc. zool. Soc. Lond. **128** : 606–608.

Davies, J. L. (2). The geography of the gray seal. J. Mammal **38** : 297–310 7 figs.

Davies, J. L. and Guiler, E. R. A note on the pygmy right whale, *Caperea marginata* Gray. Proc. zool. Soc. Lond. **129** : 579–589 2 pls. 3 figs.

Davis, D. E. (1). The frequency of reduction of rat populations by weather. Ecology **37** 1956 : 385–387.

Davis, D. E. (2). A comparison of natality rates in white-footed mice for four years. J. Mammal. **37** 1956 [1957] : 513–516.

Davis, D. E. (3). Observations on the abundance of Korean mice. J. Mammal. **38** : 374–377.

Davis, D. E. (4). The use of food as a buffer in a predator-prey system. J. Mammal. **38** : 466–472 1 fig.

Davis, D. E. *see* Christian.

Davis, D. E. *see* Nicholson.

Davis, J. A. Jr. A new shrew (*Sorex*) from Florida. Amer. Mus. Novit. No. 1844 : 1–9 1 fig.

Davis, R. A. (1). The Coypu. Agriculture, **63** 1956 : 127–129 2 figs.

Davis, R. A. (2). Observations on outdoor-living house mice (*Mus musculus* L.) Bull. Mammal. Soc. Brit. Isles No. 8 : 10–11. [Private circulation.]

Davis, R. A. (3). A survey of the mammal population of ricks in England and Wales, 1955–56. Proc. zool. Soc. Lond. **128** : 604–606.

Davis, W. B. *see* Lukens.

Davis, W. H. (1). The status of the Seminole bat, *Lasiurus seminolus* (Rhoads). Proc. biol. Soc. Wash. **70** : 181–182.

Davis, W. H. (2). A new subspecies of the eastern pipistrelle from Florida. Proc. biol. soc. Wash. **70** : 213–215.

De Boom, H. P. A. Supposed hermaphroditism of the hyena. Afr. wild Life **11** : 284–286 1 fig.

Dechaseaux, C. Moulages endocraniens naturels de Microchiroptères fossiles. Ann. Paléont. **42** 1956 [1957] : 117–137 12 figs.

Decoursey, G. E. Identification, ecology and reproduction of *Microtus* in Ohio. J. Mammal. **38** : 44–52 11 figs.

Dehnel, A. Ein neues Säugetier der polnischen Fauna *Nyctereutes procyonoides* Gray. Ann. Univ. M. Curie Skłodowska **10C** : 269–274 2 pls.

Dekeyser, P. L. & Derivot, J. Étude d'une collection de têtes osseuses de Buffles de l'Ouest Africain. Bull. Inst. franc. Afr. noire **19A** : 602–617 6 pls. 7 figs.

Delany, M. J. The small mammals of a Dumbartonshire oakwood. Glasg. Nat. **17** : 272–278 2 figs.

Delap, P. (1). Some notes on the social habits of the British deer. Proc. zool. Soc. Lond. **128** : 608–610 1 fig.

Delap, P. (2). Deer in Lakeland. Changing Scene No. 1 : 18–21.

Delap, P. (3). Myxomatosis in the North-West. Changing Scene No. 1 : 23–25.

Delap, P. *see* Page.

De La Tour, G. D. The national parks and reserves of Argentina. Oryx **4** : 159–167 1 pl. 1 map.

Deleuil, R. Une nouvelle chauve-souris pour la Tunisie : *Otonycteris hemprichi* Peters 1860. Mammalia, Paris **21** : 190.

Della Serra, O. Singular anomalia maxilio-dental em um bugio (*Alouatta nigerrima*—Primates, Mammalia). Pap. Rep. Zool. Sec. Agric. S. Paulo **13** : 45–49 1 fig.

Delost, P. (1). Les corrélations génito-surrénaliennes chez le campagnol des champs (*Microtus arvalis* P.) Ann. Sci. nat. (Zool.) (11) **18** 1956 : 391–567 16 pls. 20 figs.

Delost, P. (2). Recherches sur le cortex surrénal et la zone X des Musaraignes (*Sorex araneus* L. et *Crocidura russula* H.) C.R. Soc. Biol. Paris **151** : 484–487 figs. 1–4.

Delost, P. & Vincent, A.-M. Structure du cortex du Campagnol souterrain (*Pitymys subterraneus* S. L.). Présence d'une zone X. J. Physiol, Paris **47** 1955 : 167–169 4 figs.

Denniston, R. H. Notes on breeding and size of young in the Richardson ground squirrel. J. Mammal. **38** : 414–416.

Deol, M. S. & Truslove, G. M. Genetical studies on the skeleton of the mouse XX. Maternal physiology and variation in the skeleton of C57 BL mice. J. Genetics **55** : 288–312 4 figs.

Deoras, P. J. & Tonpi, K. V. Studies on Bombay rats. 1. Collection of fleas from *R. rattus* and *Bandicota bengalensis* in Bombay City. J. Univ. Bombay Biol. Sci. N.S. **25** : 13–22.

Derivot, J. Un Sylvicapre de Grimm carnivore? Notes afr. No. 73 : 25–26.

Derivot, J. *see* Dekeyser.

Deutsch, J. A. Nest building behaviour of domestic rabbits under semi-natural conditions. Brit. J. Anim. Behav. **5** : 53–54.

De Vos, A. (1). Summer studies of moose in Ontario. Trans. N. Amer. Wildl. Conf. **21** 1956 : 510–525 4 figs.

De Vos, A. (2). Peak populations of the masked shrew in northern Ontario. J. Mammal. **38** : 256–258.

De Vos, A. (3). Pregnancy and parasites of marten. J. Mammal. **38** : 412.

de Vos, A. *see* Taber.

DeWitt Ivey, R. Ecological notes on the mammals of Bernalillo County, New Mexico. J. Mammal. **38** : 490–502 1 fig.

Dexter, R. W. (1). Additional records of the Ohio shrew. J. Mammal. **38** : 513.

Dexter, R. W. (2). The yellow-haired porcupine as a highway casualty. J. Mammal. **38** : 526.

Dickerman, R. W. & Tester, J. *Onychomys leucogaster* in Kittson County, Minnesota. J. Mammal. **38** : 269.

Didier, R. & Cantuel, P. Notes de tératologie comparée. Un cas de monstres monocephaliens déradelphes chez le blaireau. Mammalia, Paris **21** : 235–237 1 fig.

Dinesman, L. G. Data on the importance of the elk to forestry in the European part of the USSR. Bull. Soc. Nat. Moscow. Biol. **62** : 5–12. [English summary.]

Dohna, I. Gräfin. Der Zoologische Garten in Lissabon. Zool. Gart., Lpz. **23** : 230–237 8 figs.

Doll, A. D., Balser, D. S. & Wendt, R. F. Recent records of Canada lynx in Wisconsin. J. Mammal. **38** : 414.

Dorst, J. (1). Considérations sur la dentition de lait des chiroptères de la famille des Molossidés. Mammalia, Paris **21** : 133–135.

Dorst, J. (2). Coloration anormale chez un Minioptère de Schreibers. Mammalia, Paris, **21** : 191.

Dorst, J. (3). Note sur la dentition lactéale de *Tonatia amblyotis* (Chiroptères, Phyllostomidés). Mammalia, Paris, **21** : 302–304 1 fig.

Dorst, J. (4). Record de longévité d'un grand Rhinolophe. Mammalia, Paris, **21** : 305.

Dorst, J. (5). Un cas d'albinisme complet chez un Rhinolophe euryale. Mammalia, Paris, **21** : 306.

Dorst, J. Heim de Balsac, H. & Morales-Agacino, E. Liste des noms français et espagnols des mammifères d'Europe. Mammalia, Paris **21** : 258–266.

Drexler, L. Ein pathologischer Humerus einer Höhlenbären. Ann. naturh. Mus. Wien **61** : 96–101 1 pl.

[**Drosdova, L. P.** *see* Khronopulo.

Dubrovo, I. A. Uber die gattungen der unter-familie Elephantinae Gray. Vertebrata Palasiatica **1** : 223–232 5 figs. [German summary p. 231.]

Dücker, G. Farb und Helligkeitssehen und Instinkte bei Viverriden und Feliden. Zool. Beitr. **3** : 25–99 25 figs.

Duke, K. L. Reproduction in *Perognathus*. J. Mammal. **38** : 207–210 2 pls.

[**Dul'keit, G. D.**] [The hare *Lepus mandshuricus raddei* Tsch. in the Ussuri District.] Zool. Zh. **35** 1956 : 916–921. [English summary.]

Dunn, L. C. (1). The distribution of mutant alleles at a complex locus in North American populations of wild house-mice (*Mus musculus*). Ric. sci. **25** Suppl. 1955 : 9–12.

Dunn, L. C. (2). Studies of the genetic variability in populations of wild house mice. II. Analysis of eight additional alleles at locus T. Genetics **42** : 299–311.

Dunstan, D. J. Caudal presentation at birth of a humpback whale, *Megaptera nodosa* (Bonnaterre). Norsk Hvalfangsttid. **46** : 553–555, 2 figs.

Durup, H. Une classification mathématique des rhythmes biologiques fluctuants. Mammalia, Paris **21** : 420–429 1 fig.

Dvoretzky, A. *see* Bodenheimer.

[**Dyatlov, A. I.**] Effect of the food store of *Rhombomys opimus* Licht. on the population density and distribution of fleas in the rodent burrows. Zool. Zh. **35** 1956 : 1406–1409. [English summary.]

Dyce, K. M. The muscles of the pharynx and palate of the dog. Anat. Rec. **127** : 497–508 3 figs.

Dylewska, M. Spatial orientation in hedgehogs of the species *Erinaceus roumanicus* Barret-Hamilton. Folia biol., Kraków **5** : 73–98 22 figs. [English summary.]

Dzierżykraj-Rogalska, I. Die saisonale Veränderlichkeit der Schilddrüse bei der Wasserspitzmaus (*Neomys fodiens* Schreb.) Ann. Univ. M. Curie-Skłodowska **10C** : 295–310 5 pls.

Eads, R. B., Grimes, J. E. & Conklin, A. (1). Additional Texas bat records. J. Mammal. **38** : 514.

Eads, R. B., Wiseman, J. S. & Menzies, G. C. (2). Observations concerning the Mexican free-tailed bat, *Tadarida mexicana*, in Texas. Texas J. Sci. **9** : 227–242 4 figs.

Easter, R. Q. & Nichols, D. G. The role of albedo in color discrimination of spider monkeys. Proc. Iowa Acad. Sci. **58** 1951 : 321–330 2 figs.

Eayrs, J. T. *see* Ashton.

Ebhardt, H. Drei unterschiedliche Verhaltensweisen von Islandpferden in norddeutschen Freigehegen. Säugetierk. Mitt. **5** : 113–119.

Ecke, D. H. *see* Kinney.

Edinger, T. Objets et Resultats de la Paléoneurologie. Ann. Paléont. **42** 1956 [1957] : 95–116 18 figs.

Edmond-Blanc, F. (1). Observations sur le comportement de la Panthère et du Lion. Mammalia, Paris **21** : 452–453.

Edmond-Blanc, F. (2). Observations sur deux Antilopes albinos. Mammalia, Paris, **21** : 453–454.

Edwards, R. G. The experimental induction of gynogenesis in the mouse. I. Irradiation of the sperm by X-rays. II. Ultra-violet irradiation of the sperm. Proc. roy. Soc. **146B** : 469–487 2 pls., 2 figs. 489–504 2 pls. 3 figs.

Edwards, R. G. *see* Sirlin.

Edwards, R. Y. & Ritcey, R. W. The migrations of a moose herd. J. Mammal. **37** 1956 [1957] : 486–494 2 figs.

Eggeling, W. J. The Mammals of the Isle of May. Scot. Nat. **69** : 71–74.

Egli, A. Zur funktionellen Anatomie der Bläschendrüse (glandula vesiculosa) des Rindes. Acta Anat. **28** 1956 : 359–381 16 figs.

Egoscue, H. J. (1). Notes on Utah weasels. J. Mammal. **38** : 411–412.

Egoscue, H. J. (2). The desert woodrat: a laboratory colony. J. Mammal. **38** : 472–481 1 fig.

Ehlers, K. Über die Seelöwin (*Eumetopias californianus*) " Inge " der Tiergrotten Bremerhaven. Zool. Gart., Lpz. **23** : 189–194 1 fig.

Ehrlich, S. Phenomena occurring among the Nutria-coypu population and reduction in their numbers. Ekol. Polska **4A** : 171–212 1 fig. [English summary.]

Ehrlich, S. & Einszporn, T. Spülen der Nahrung bei Sumpfbibien. Ekol. polska **5A** : 1–5. [Polish with German summary.]

Eibl-Eibesfeldt, I. (1). Eine Nacht unter Seelöwen. Ein Erlebnisbericht von der Dr. Hass-Expedition nach den Galapagos-Inseln. Kosmos, Stuttgart **51** 1955 : 405–409 10 figs.

Eibl-Eibesfeldt, I. (2). The Otariidae of the Galapagos Islands. J. Mammal. **37** 1956 [1957] : 549.

Eibl-Eibesfeldt, I. (3). Über die ontogenetische Entwicklung der Technik des Nüsseöffnens vom Eichhörnchen (*Sciurus vulgaris* L.). Z. Säugetierk. **21** 1956 [1957] : 132–134 5 figs.

Eibl-Eibesfeldt, I. (4). Angeborenes und Erworbenes in der Technik des Beutetötens (Versuche am Iltis, *Putorius putorius* L.) Z. Säugetierk. **21** 1956 [1957] : 135–137.

Eibl-Eibesfeldt, I. (5). Ausdrucksformen der Säugetiere. Handb. Zool., Berl. **8** lfg. 8 Teil 10 (6) : 1–26 28 figs.

Einarsen, A. S. Determination of some predator species by field signs. Ore. St. Monogr. Zool. 1956 : (10) : 1–34 25 figs.

Einszporn, T. *see* Ehrlich.

Eisentraut, M. (1). Wie alt werden Fledermäuse? Kosmos, Stuttgart **46** 1950 : 40–43 3 figs.

Eisentraut, M. (2). Fliegende Säugetiere. Kosmos, Stuttgart **49** 1953 : 497–500 6 figs.

Eisentraut, M. (3). Die ersten Aufnahmen von fischenden Fledermäusen. Kosmos, Stuttgart. **52** 1956 : 220–223 8 figs.

Eisentraut, M. (4). Aus dem leben der Fledermäuse und Flughunde. Jena (Gustav Fischer Verlag) pp. viii + 175 93 figs.

Eisentraut, M. (5). Das Weissbauch-Schuppentier (*Manis tricuspis* Raf.). Zool. Gart., Lpz. **23** : 50–54 6 figs.

Eisentraut, M. (6). Die Wimperfledermaus (*Myotis emarginatus*) im Schwarzwald. Jh. Ver. vaterl. Naturk. Württemb. **112** : 331–332.

Eisentraut, M. (7). Beitrag zur Säugetierfauna des Kamerungebirges und Verbreitung der Arten in den verschiedenen Höhenstufen. Zool. Jb. (Syst.) **85** : 619–672 20 figs.

Eisentraut, M. & Knorr, H. Les chauves-souris cavernicoles de la Guinée française. Mammalia, Paris **21** : 321–340.

Eklund, C.R.E. Bird and mammal notes from the interior Ungava Peninsula. Canad. Fld. Nat. **70** : 69–76 map.

[**Ekvtimishvili, Z. S.**] (1). [Material for studying the breeding of Georgian wild goat.] Trud. Inst. Zool. Tiflis **13** 1954 : 92–97. [In Georgian with Russian summary.]

[**Ekvtimishvili, Z. S.**] (2). [On the breeding season in Severtzov's tur and roe buck.] Trud. Inst. Zool. Tiflis **13** 1954 : 99–105. [In Georgian with Russian summary.]

Elbel, R. E. & Thaineua, M. A flea and rodent control program for plague prevention in Thailand. Amer. J. trop. Med. Hyg. **6** : 280–293 4 figs.

Elias, H. & Bortner, S. On the phylogeny of hair. Amer. Mus. Novit. No. 1820 : 1–15 31 figs.

Ellis, D. V. Some observations on mammals in the area between Coppermine and Pond Inlet, N.W.T., during 1954 and 1955. Canad. Fld. Nat. **71** : 1–6 map.

[**Emelianov, S. V.**] [Animal responses to external influences at different periods of ontogeny.] Zool. Zh. **36** : 49–63. [English summary.]

Emler, J. T. *see* Mueller.

Empel, W. Changes in the skull morphology in relation to age and to the local distribution in wild rabbit (*Oryctolagus cuniculus* L.) Folia Morph. Warz. **8** : 169–194 3 figs. [English summary.]

Enemar, A. & Hanström, B. The relative sizes of the neural and glandular lobes in some rodents. Acta Univ. lund. Andra Afd. N.S. **52** 17 : 1–5.

Ennouchi, E. (1). Un Sirénien, *Felsinotherium* cf. *Serresi*, à Dar bel Hamri. Notes Serv. Min. Maroc No. 121 1954 : 77–82 figs.

Ennouchi, E. (2). Nouvelles pièces d'Hippopotames, de Rhinocéros et d'Éléphants marocains. Bull. Soc. Sci. nat. Maroc **36** : 307–317 5 pls. 3 figs.

Ennouchi, E. in Panouse. Les éléphants marocains à l'époque historique. Trav. Inst. Sci. Cherifien. Zool. No. **5** : 145–146.

Ennouchi, E. & Jeannette, A. L'Hipparion de Camp-Berteaux, près de Taourirt (Maroc oriental). Notes Serv. Min. Maroc No. 122 1954 : 65–76 1 pl. 3 figs.

Ennouchi, E. *see* Choubert.

Epple, A. *see* König.

Erdelyi, L. *see* Abraham.

Erickson, A. W. Techniques for live-trapping and handling black bears. Trans. N. Amer. Wildl. Conf. **22** : 520–543 18 figs.

Essapian, F. S. *see* Tavolga.

Ewer, R. F. (1). The fossil pigs of Florisbad. Navors. Nas. Mus. **1** : 239–257 4 pls.

Ewer, R. F. (2). Some fossil Carnivores from the Makapansgat Valley. Palaeont. Africana **4** : 57–67 figs.

Ewing, G. *see* Gilmore.

Fand, I. & Gordon, A. S. A quantitative study of the bone marrow in the guinea pig throughout life. J. Morph. **100** : 473–500 6 figs. 3 pls.

Farrand, R. L., Folk, G. E., Jr. & Riedesel, M. L. Types of mammalian hibernation. Proc. Iowa Acad. Sci. **63** 1956 : 724–728.

Farrand, R. L. *see* Grindeland.

Fay, F. H. History and present status of the Pacific walrus population. Trans. N. Amer. Wildl. Conf. **22** : 431–445 1 fig.

Felten, H. (1). Quiropteros (Mammalia, Chiroptera) en El Salvador. Comun. Inst. Trop. Invest. Cient. El Salvador **5** 1956 : 153–170 14 pls. figs.

Felten, H. (2). Fledermäuse (Mammalia, Chiroptera) aus El Salvador. Teil 5. Senck. biol. **38** : 1–22 2 pls. 3 figs.

Felten, H. (3). Nagetiere (Mammalia, Rodentia) aus El Salvador. Senck. biol. **38** : 145–155 1 pl.

Felten, H. (4). Der australische Wildhund. Natur u. Volk **87** : 389–392 3 figs.

Fenner, F. Myxomatosis in European rabbits—evolutionary changes in an infectious disease. Aust. J. Sci. **19** : 119–122 2 figs.

Feremutsch, K. Der Hypothalamus der Prosimier. Mitt. naturf. Ges. Bern N.F. **14** : 65–79 1 pl.

Fernando, E. C. A perfect head. Loris **7** 1956 : 308–310 1 fig.

Fiedler, W. Beobachtungen zum Markierungs-verhalten einiger Säugetiere. Z. Säugetierk. **22** : 57–76 2 pls.

Fields, R. W. Hystricomorph rodents from the late Miocene of Colombia, South America. Bull. Dep. Geol. Univ. Calif. **32** : 273–404 1 pl. 35 figs.

Findley, J. S. The hog-nosed bat in New Mexico. J. Mammal. **38** : 513–514.

Findley, J. S. & Baker, R. H. Dwarf shrew first reported in South Dakota. J. Mammal. **37** 1956 [1957] : 543.

Findley, J. S. & Poorbaugh, J. Another dwarf shrew from New Mexico. J. Mammal. **38** : 513.

Finlayson, H. H. Preliminary description of two new forms of *Bettongia* (Marsupialia). Ann. Mag. nat. Hist. (12) **10** : 552–554.

Firsov, L. A. *see* Maiorov.

Fischer, W. Winterwurf des Eichhörnchens. Z. Säugetierk. **22** : 105–106.

Fisher, H. D. *see* Sergeant.

Fisher, K. C. *see* Pengelley.

Fitch, H. S. Aspects of reproduction and development in the prairie vole (*Microtus ochrogaster*). Publ. Mus. nat. Hist. Univ. Kansas **10** : 129–161 8 figs.

Fleay, R. Growing up with wombats. Anim. Kingd. **60** : 107–110 4 figs.

[**Flerov, K. K.**] (1). [Dinocerata of Mongolia.] Trav. Inst. paléozool. Acad. Sci. U.R.S.S. **67** : 1–82 6 pls 40 figs.

Flerov, K. K. (2). A new Coryphodont from Mongolia and on evolution and distribution of Pantodonta. Vertebrata Palasiatica **1** : 73–81 figs.

Fleury, C. Nouvelle technique pour mesurer l'effort musculaire de la souris, dite test de l'agrippement. Arch. Sci. Genève **10** : 107–112 1 fig.

Flittner, G. *see* Jones.

Flynn, T. T. Professor James Peter Hill. Proc. Linn. Soc. Lond. **168** : 45–47.

Folk, G. E., Jr. Twenty-four hour rhythms of mammals in a cold environment. Amer. Nat. **91** : 153–166 13 figs.

Folk, G. E. *see* Grindeland.

Folk, G. E. *see* Riedesel.

Fontaine, M. *see* Olivier.

Fontaine, Y. A. Mise en évidence et dosage du pouvoir thyréotrope dans l'hypophyse de Girafe (*Giraffa camelopardalis* L.). Bull. Mus. Hist. nat. Paris (2) **28** : 500–503.

Foster, J. B. Small mammal populations at Churchill, Manitoba. Ontario Fld. Biol. No. 11 : 18–19.

Fooks, H. A. (1). The control of deer. Bull. Mamm. Soc. Brit. Is. No. 7 : 13–20. [Private circulation.]

Fooks, H. A. (2). Carnivorous Hippos. Field, **210** : 1144 1 fig.

Fooks, H. A. *see* Page.

Ford, C. E. & Hamerton, J. L. Chromosome variation in the common shrew. Bull. Mamm. Soc. Brit. Isles No. 8 : 12–13. [Private circulation.]

Ford, C. E., Hamerton, J. L. & Sharman, G. B. Chromosome polymorphism in the common shrew. Nature, Lond. **180** : 392–393 3 figs.

Foster, J. B. *see* Smith, D. A.

Frangipane, G. Aspetti del secreto vaginale in ♀♀ gravide di topo domestico. Boll. Zool. **23** 1956 [1957] : 695–700.

Frank, F. (1). Bemerkenswerter Artgenossen-Transport bei der Feldmaus *Microtus arvalis* Pallas. Z. Tierpsychol. **13** 1956 : 491–492.

Frank, F. (2). Das Duftmarkieren der Grossen Wühlmaus, *Arvicola terrestris* (L.). Z. Säugetierk. **21** 1956 [1957] : 172–175.

Frank, F. (3). Das Fortpflanzungspotential der Feldmaus, *Microtus arvalis* (Pallas)—einer Spitzenleistung unter den Säugetieren. Z. Säugetierk. **21** 1956 [1957] : 176–181.

Frank, F. (4). Zucht und Gefangenschafts-Biologie der Zwergmaus (*Micromys minutus subobscurus* Fritsche). Z. Säugetierk. **22** : 1–44 1 pl. 3 figs.

Frank, F. (5). Brunstgeruch beim Erdmaus-Männchen, *Microtus agrestis* (L.). Z. Säugetierk. **22** : 104.

Frank, F. & Zimmermann, K. (1). Färbungs-Mutationen der Feldmaus (*Microtus arvalis* (Pall.).) Z. Säugetierk. **22** : 87–100 1 pl.

Frank, F. & Zimmermann, K. (2). Über die Beziehungen zwischen Lebensalter und morphologischen Merkmalen bei der Feldmaus, *Microtus arvalis* (Pallas). Zool. Jahrb. Syst. **85** : 283–300 7 figs.

Fraser, A. F. (1). The state of fight or flight in the bull. Brit. J. Anim. Behav. **5** : 48–49 1 fig.

Fraser, A. F. (2). The disposition of the bull. Brit. J. Anim. Behav. **5** : 110–115 7 figs.

Fraser, F. C. (1). A new Sarawak dolphin. Sarawak Mus. J. **7** 1956 : 478–503 5 pls. 2 figs.

Fraser, F. C. (2). Cetaceans stranded on the British coasts during 1956. Bull. Mamm. Soc. Brit. Is. No. 7 : 21–22. [Private circulation.]

Frechkop, S. (1). A propos de nouvelles espéces de Potamogalinés. Mammalia, Paris, **21** : 226–234 3 figs.

Frechkop, S. (2). Le cheval de Prjewalski. Zoo., Antwerp **23** : 48–55 5 figs.

Freedman, L. The fossil Cercopithecoidea of South Africa. Ann. Transv. Mus. **23** : 121–262 53 pls. 7 figs.

Frenzel, L. D. *see* Beer.

Friant, M. (1). Un cerveau de foetus de Rorqual (*Balaenoptera musculus* L.) C.R. Acad. Sci. Paris **244** : 236–238 3 figs.

Friant, M. (2). Le debut de l'ossification du cartilage de Meckel. C.R. Acad. Sci. Paris **244** : 1071–1073 1 fig.

Friant, M. (3). Sur les sillons fondamentaux du lobe occipital des Primates. C.R. Acad. Sci. Paris **244** : 2852–2854 2 figs.

Friant, M. (4). L'évolution du Cartilage de Meckel chez un Insectivore, la Taupe (*Talpa europaea* L.) C.R. Acad. Sci. Paris **245** : 1836–1838.

Friant, M. (5). Les "cornules incisives" du lièvre (*Lepus europaeus* Pallas) histogénèse et histologie. Acta Anat. **29** : 330–343.

Frick, H. (1). Quantitative Untersuchungen an äthiopischen Säugetieren. (1. Absolute und relative Gewichte von Herz, Leber, Milz und Nieren). Anat. Anz. **104** : 305–333 4 figs.

Frick, H. (2). Betrachtungen über die Beziehungen zwischen Körpergewicht und Organgewicht. Z. Säugetierk. **22** : 193–207 2 figs.

Gabashvili, E. G. *see* Burchak-Abramovich.

Gabis, R. V. Étude de la mandibule humaine de la station moustérienne de Petit-Puymoyen (Charente). Bull. Soc. géol. Fr. (6) **6** : 1021–1028 figs.

[**Gabunia, L. K.**] [On the representative Chalicotheres from Eocene, of South Georgia.] C.R. Acad. Sci. URSS. **116** : 137–140 1 fig. [In Russian.]

[**Gadzhiev, D. V.**] [Morphological features in structure of nasal bones in *Phoca caspica* and their taxonomic significance.] Doklady Akad. Nauk Azerb. SSR **13** : 431–435 1 fig. [In Russian.]

[**Gadzhiev, G. V. & Gadzhiev, D. V.**] [On the adaptive reduction of the lateral metapodia in Equidae.] Izv. Akad. Nauk Azerb. SSR No. 7, 105–111 2 figs. [In Russian.]

Gaisler, J. & Hanak, U. Uber einen Fund von *Myotis oxygnathus* Monticelli in der Tschechoslowakei. Mém. Soc. Zool. Tchechosl. **20** 1956 : 364–367. 1 fig. [Czech with German summary.]

Gama, M. M. da. Mamiferos de Portugal (chaves para a sua determinacao.) Mem. Mus. Zool. Univ. Coimbra No. 246 : 246 pp. 153 figs.

Gamble, H. J. Temperature effects in mammalian nerve regeneration. Nature, Lond. **180** : 146–147 1 fig.

Gameshina, L. V., Vorontsov, N. N. & Chabovsky, V. I. Comparative morphological study of the nasal cavity structure in certain representatives of the order Insectivora. Zool. Zh. **36** : 122–138 12 figs. [Russian with English summary.]

Gard, R. *see* Jones.

Garn, S. M. & Koski, K. Tooth eruption sequence in fossil and recent man. Nature, Lond. **180** : 442–443.

[**Garutt, V. E.**] [A new fossil elephant —*Phanagoroloxodon mammontoides* gen. et sp. nov. from the Caucasus.] C.R. Acad. Sci. Moscow **112** : 333–335 2 figs. [In Russian.]

Gashwiler, J. S. & Robinette, W. L. Accidental fatalities of the Utah cougar. J. Mammal. **38** : 123–126 1 pl.

Gaunt, W. A. On the nature of the jaws and teeth of an opodymous kitten. Acta anat. **31** : 273–287 14 figs.

[**Gavrilenko, N. I.**] [Note on elk and *Vormela sarmatica*.] Trav. Mus. Zool. Acad. Sci. Ukr. No. 27 1956 : 160–164. [In Ukrainian with Russian summary.]

Gaynor, A. I. *see* Hillemann.

Gazin, C. L. (1). Exploration for the remains of giant ground Sloths in Panama. Rep. Smithson. Instn. **1956** [1957] : 341–354 8 pls. 7 figs.

Gazin, C. L. (2). A skull of the Bridger Middle Eocene creodont, *Patriofelis ulta* Leidy. Smithson. misc. Coll. **134** : 1–20 4 pls.

Geis, A. D. (1). Normal blood cell counts for the cottontail rabbit. J. Mammal. **38** : 136.

Geis, A. D. (2). Coprophagy in the cottontail rabbit. J. Mammal. **38** : 136.

[**Geller, M. K.**] [On the protection of the economic marine mammals.] Kom. Okhr. Prir. **2** : 108–117 3 figs. [In Russian.]

Gentry, J. B. & Odum, E. P. The effect of weather on the winter activity of old-field rodents. J. Mammal. **38** : 72–77 1 fig.

Geptner, V. G. The male genital tract and the systematic relations of *Spermophilopsis leptodactylus* Licht. (Mammalia, Sciuridae.) Zool. Zh. **36** : 1233–1238 5 figs.

[**Geptner, V. G. & Turova-Morozdva, L. G.**] [Material on wolf study with a description of a method for determination of the age variations in mammals.] Arch. Mus. zool. Univ. Moscow. **7** 1951 : 5–14 fig. [In Russian.]

Gerber, R. (1). Zum Vorkommen der Fledermäuse in Nordwestsachsen. Z. Säugetierk. **21** 1956 [1957] : 142–148.

Gerber, R. (2). Zum Thema " Schlangenfurcht " bei Affen. Zool. Gart. Lpzg. **23** : 247.

German, A. L. *see* Karaseva.

Getz, L. L. Color variation in pocket gophers, *Thomomys*. J. Mammal. **38** : 523–526.

Gewalt, W. (1). Über das " Waschen " von *Procyon lotor*. L. Z. Saugetierk. **21** 1956 [1957] : 149–155 1 pl.

Gewalt, W. (2). Über das Schwimmen von Eichhorn, *Sciurus vulgaris fuscoater*, Feldhase, *Lepus e. europaeus*, und Reh, *Capreolus c. capreolus*. Säugetierk. Mitt. **5** : 162–165.

Ghanem, Y. S. *see* Soliman.

Ghettie, V., Riga, I. & Pastea, E. Anatomia sistemului nervos. Central si neurovegetativ la animalele domestice. Editura agro silvica de Strat, Bucarest, 1956, 352 pp. 11 pls, 189 figs. [N.V. Review Mammalia, Paris **21** : 195.]

Gheyara, F. D. Rats in human dietary. J. Bombay nat. Hist. Soc. **53** 1956 : 689–690.

Giban, J. Note sur la faune des micromammiferes du domaine de l'Etoile de Choisy (Versailles). Mammalia, Paris **21** : 77–89 1 fig.

Gibbney, L. F. The seasonal reproductive cycle of the female elephant seal—*Mirounga leonina*, Linn. at Heard Island. Rep. Aust. nat. Antarct. Exped. **1B** : 1–26 5 figs.

Gier, H. T. & Bradshaw, G. V. R. Five-year report on the Kansas small mammal census. Trans. Kansas Acad. Sci. **60** : 259–272 3 figs.

Gigoux, E. E. El cururo. Rev. Univ., Santiago **30** 2 (An. Acad. chil. Cienc. nat. No. 10) 1945 : 95–97 1 pl.

Giles, N. H. *see* Chu.

Gilmore, R. M. & Ewing, G. Calving of the California grays. Pacific. Disc. **7** 1954 : 13–15. *See* Contr. Scripps. Inst. Oceanogr. **1954** 1956 : no. 697.

Girolamo, A. de. Über das Verhalten der Chromosomen beim Büffel. Acta Anat. **29** : 323–330 1 fig.

[**Gladkina, T. S. & Polyakov, I. Y.**] [Criteria for forecasting the abundance of *Meriones erythrourus* in Transcaucasus and Central Asia.] Zool. Zh. **35** 1956 : 922–934. [English summary.]

[**Gladkov, N. A.**] [New information on vertebrates of Trans-Polar Yakutia (Tiksi Bay).] C.R. Acad. Sci. Moscow **112** : 159–162. [In Russian.]

Gläss, E. *see* Marquardt.

Gleeson-White, M. H. *see* Boursnell.

Godfrey, G. K. (Mrs. Crowcroft). (1). Observations of the movements of moles (*Talpa europaea* L.) after weaning. Proc. zool. Soc. Lond. **128** : 287–295 1 pl. 3 figs.

Godfrey, G. K. (Mrs. Crowcroft). (2). Aggressive behaviour in the mole (*Talpa europaea* L.) Proc. zool. Soc. Lond. **128** : 602–604.

Godfrey, K. *see* Chittleborough.

Goguyer, G. & Gruet, M. Observation d'une parturition chez *Myotis emarginatus*. Mammalia, Paris **21** : 97–110 3 pls. 2 figs.

Golley, F. B. (1). Gestation period, breeding and fawning behaviour of Columbian black-tailed deer. J. Mammal. **38** : 116–120.

Golley, F. B. (2). Distribution of porcupine in upper Michigan. J. Mammal. **38** : 526–527.

Goodhead, B. The development of a ground substance in the cerebral cortex of the rat. Acta anat. **29** : 297–304.

Goodwin, G. G. A new kinkajou from Mexico and a new hooded skunk from Central America. Amer. Mus. Novit. No. 1830 : 1–4.

[**Gorbik, P. V.**] [Ecology of *Microtus agrestis* in Bukovina.] Trav. Mus. zool. Acad. Sci. Ukr. No. 27 1956 : 165–168. [In Ukrainian with Russian summary.]

Gordeev, T. P. & Jernakov, V. N. [A skeleton of the fossil Rhinoceros found in the vicinity of Fuliaerhtzi Station of the Heilungchiang Province.] Vertebrata Palasiatica **1** : 233–246 5 pls. 4 figs. [English summary p. 244.]

Gordon, A. S. *see* Fand.

Gordon, S. The golden eagle v. the fox. Field **209** : 339 2 figs.

Gordon, W. G. Stags fight to the kill. Field **210** : 730.

Gottschang, J. L. Juvenile molt in *Peromyscus leucopus noveboracensis*. J. Mammal. **37** 1956 [1957] : 516–520 1 fig.

Goy, R. W., Hoar, R. M. & Young, W. C. Length of gestation in the guinea pig with data on the frequency and time of abortion and stillbirth. Anat. Rec. **128** : 747–757 3 figs.

Gräf, I. E. Die Prinzipien der Artbestimmung bei *Dinotherium*. Palaeontographica **108A** : 131–185 1 pl.

Graham, M. A. *see* Moore.

Grahn, D. & Hamilton, K. F. Genetic variation in the acute lethal response of four inbred mouse strains to whole body X-irradiation. Genetics **42** : 189–198.

Grant, J. An arboreal red-backed vole. Canad. Fld. Nat. **71** : 82.

Grayce, R. L. (1). Checklist of New England mammals. Bull. Mass. Audubon Soc. **41** : 15–24 26.

Grayce, R. L. (2). Key to the marine mammals of New England. Bull. Mass. Audubon Soc., **41** : 417–419.

Greenhall, A. M. (1). Bats of Trinidad. J. Trinidad Fld. Nat's. Club. 1956 [1957] : 16–18.

Greenhall, A. M. (2). Is the Yapok or Water Opossum found in Trinidad? J. Trinidad Fld. Nat's. Cl. **1956** [1957] : 27.

Greenhall, A. M. (3). Food preferences of Trinidad fruit bats. J. Mammal. **38** : 409–410.

Greenwald, G. S. (1). Reproduction in a coastal California population of the field mouse *Microtus californicus*. Univ. Calif. Publ. Zool. **54** : 421–446 11 figs.

Greenwald, G. S. (2). Interruption of pregnancy in the rabbit by the administration of estrogen. J. exp. Zool. **135** : 461–481 15 figs.

Greer, K. R. Some osteological characters of known-age ranch minks. J. Mammal. **38** : 319–330 2 pls. 1 fig.

Gresson, R. A. R. The golgi complex of the male germ cells of mammals. Cellule **58** : 247–257.

Griffin, D. R. *see* Hall.

Griffo, J. V., Jr. The status of the nutria in Florida. Quart. J. Fla. Acad. Sci. **20** : 209–215 1 fig.

[**Grigoryev, N. D.**] [Hybrids between *Lepus europaeus* Pall. and *Lepus timidus* L. in Kazan Zoo.] Zool. Zh. **35** 1956 : 1099–1100. [In Russian.]

[**Grimalski, V. I. & Zagaikevich, I. V.**] [Trees damaged by bears in the Carpathians.] Priroda No. 3 : 115–116 1 fig. [In Russian.]

Grimes, J. E. *see* Eads.

Grimm, W. D. Stratigraphische und sedimentpetrographische Untersuchungen in der Oberen Susswassermolasse zwischen Inn und Rott (Niederbayern). Beih. Geol. Jb. **26** : 97–199 8 pls. figs.

Grindeland, R. E., Folk, G. E. & Farrand, R. L. Some factors influencing the life span of golden hamsters. Proc. Iowa Acad. Sci. **64** : 638–642.

[**Gromov, I. M.**] (**1**). [Principles and prospects for studying Quaternary rodents of USSR.] Trav. Inst. Zool. Acad. Sci. URSS **22** : 90–99. [In Russian.]

[**Gromov, I. M.**] (**2**). [Some features of bone preservation of small mammals from alluvium as indicators of geological age.] Trav. Inst. Zool. Acad. Sci. URSS **22** : 100–111. [In Russian.]

[**Gromov, I. M.**] (**3**). [Upper quaternary rodents of the Samara bend and conditions of preservation and accumulation of their remains.] Trav. Inst. Zool. Acad. Sci. URSS **22** : 112–150 4 figs. [In Russian.]

[**Gromov, I. M.**] (**4**). [Upper pleistocene rodents of the Kama-Kuïbïshev Volga area.] Trav. Inst. Zool. Acad. Sci. URSS **22** : 151–191 9 figs. [In Russian.]

(**Gromov, I. M.**] (**5**). [Material on the history of the rodents of the lower Ural and the northern Prikaspye.] Trav. Inst. Zool. Acad. Sci. URSS **22** : 192–245 19 figs. [In Russian.]

[**Gromov, I. M.**] (**6**). [Fossil quaternary rodents of northern part of Don and adjacent parts of Volga-Don watershed.] Trav. Inst. Zool. Acad. Sci. URSS **22** : 246–318 8 figs. [In Russian.]

Gruch, W. Über die Riechfähigkeit bei Wanderratten. Zool. Jb. (Allg. Zool.) **67** : 65–80.

Gruet, M. *see* Goguyer.

Grüneberg, H. (**1**). Genetical studies on the skeleton of the mouse. XIX. Vestigial-tail. J. Genet. **55** : 181–194 2 pls. 5 figs.

Grüneberg, H. (**2**). The developmental mechanisms of genes affecting the axial skeleton of the mouse. Amer. Nat. **91** : 95–102.

Gruzdev, V. V. & others. Summer feeding of Fox (*Vulpes vulpes* L.) in Pri-Eruslan sands. Zool. Zh. **36** : 1424–1426. [Russian with English summary.]

Grzimek, B. (**1**). Schnabeltier und Schnabeligel. Kosmos, Stuttgart, **49** 1953 : 488–490 4 figs.

Grzimek, B. (**2**). Gorillas in Afrika und in Zoologischen Gärten. Kosmos, Stuttgart **50** 1954 : 229–236, 12 figs.

Grzimek, B. (**3**). Die Elefanten-Zähmungsstation in Afrika. Kosmos, Stuttgart **52** 1956 : 416–421 7 figs.

Grzimek, B. (**4**). Giraffengazellen im Frankfurter Zoo. Kosmos, Stuttgart **52** 1956 : 526–529 3 figs.

Grzimek, B. (**5**). Neues vom Orang-Utan. Kosmos, Stuttgart **53** : 61–64 3 figs.

Grzimek, B. (**6**). Delphine helfen kranken Artgenossen. Säugetierk. Mitt. **5** : 160–162.

Grzimek, B. (**7**). Masse und Gewichte von Flachland-Gorillas. Z. Säugetierk. **21** 1956 [1957] : 192–194 1 fig.

Grzimek, B. (**8**). Zusammensetzung von Kamelmilch. Zool. Gart. Lpzg. **23** : 247.

Grzimek, B. (**9**). Beobachtungen an Gorillas und Schimpansen in Span.-Guinea. Zool. Gart. Lpzg. **23** : 249.

Gudmundsson, F. (**1**). Ledurblökuheimsóknin. Nattúrúfraedingurinn, Reykjavik **13** 1943 : 153–154 1 fig.

Gudmundsson, F. (**2**). Ný ledurblökuheimsókn. Nattúrúfraedingurinn, Reykjavik, **14** 1944 : 143.

Gudmundsson, F. (**3**). Ledurblaka handsomuo i Selvogi. Nattúrúfraedingurinn **27** : 143–144 1 fig.

Guiler, E. R. (**1**). The present status of some Tasmanian mammals in relation to the fur industry of Tasmania. Pap. roy. Soc. Tasm. **91** : 117–128 10 figs.

Guiler, E. R. (**2**). Longevity in the wild Potoroo, *Potorous tridactylus* (Kerr) Aust. J. Sci. **20** : 26.

Guiler, E. R. *see* Davies, J. L.

Gupta, A. C. Tigers at high altitudes. J. Bengal nat. Hist. Soc. **29** : 55–56.

[Gusev, V. M. & Kharkova, N. M.] [On the toxicity of aerosols of DDT in the house and field mice.] Trud. Nauch. Issled. Protiv. Inst. Stavropol. **1** 1956 : 403–406. [In Russian.]

Gusev, V. M. *see* Dal.

Guth, C. (1). Contribution à la connaissance de l'os temporal de *Scelidotherium* Owen. Ann. Paléont. **42** 1956 [1957] : 151–168 5 figs.

Guth, Chr. (2). Le stapes de quelques edentés fossiles. Mammalia, Paris **21** : 121–124 4 figs.

Haddow, A. J. The black mangabey. Uganda Wild Life & Sport **1** No. 2 : 46–48.

Haedrich, B. *see* Kahmann.

Hafez, E. S. E. Requirements, responses, mechanisms and application of photoperiodicity. Proc. 1st. internat. Photobiol. Congr. Amst. **1954** 1956 : 101–102.

Haffner, K. von (1). Konstruktion und Eigenschaft der Haut der vor 188 Jahren ausgerotteten Steller'schen Seekuh (*Rhytina stelleri* Retz.). Verh. dtsch. zool. Ges. **1956** [1957] : 312–316 2 figs.

Haffner, K. von (2). Bau, Eigenschaften und ehemalige Verwendung der Haut der seit 1768 ausgerotteten Steller'schen Seekuh (*Rhytina stelleri* Retz.). Mitt. hamburg Zool. Mus. **55** : 107–136 3 pls. 17 figs.

Hager, P. D. Badgers in the N.W. Herts and Bucks area of the Chilterns. Trans. Herts. nat. Hist. Soc. **24** : 201–208.

Hagmeier, E. M. (1). Distribution of marten and fisher in North America. Canad. Fld. Nat. **70** : 149–168 2 figs.

Hagmeier, E. M. (2). A red bat from New Brunswick. Canad. Fld. Nat. **71** : 35.

Hainard, R. La réintroduction du castor en Suisse. Schweiz. Natursch. **23** : 89–92.

Halayon, G. C. & Buechner, H. K. Postconception ovulation in elk. Trans. N. Amer. Wildl. Conf. **21** 1956 : 545–554 3 figs.

Hall, E. R., Anderson, S., Jones, J. K. & Packard, R. L. Vernacular names for North American mammals north of Mexico. Misc. Publ. Univ. Kansas Mus. Nat. Hist. No. 14 : 1–16.

Hall, J. S., Cloutier, R. J. & Griffin, D. R. Longevity records and notes on tooth wear of bats. J. Mammal. **38** : 407–409.

Halliday, R. The production of antibodies by young rats. Proc. roy. Soc. **147B** : 140–144.

Halloran, A. F. (1). Live and dressed weights of American bison. J. Mammal. **38** : 139.

Halloran, A. F. (2). A note on the Sonoran pronghorn. J. Mammal. **38** : 423.

Halloran, A. F. (3). The bison returned to the plains. Anim. Kingd. **60** : 130–135 6 figs.

Haltenorth, Th. (1). Das Zwergwiesel—ein unbekanntes deutsches Tier. Kosmos. Stuttgart **46** 1950 : 210–211 1 fig.

Haltenorth, Th. (2). Steinböcke. Kosmos, Stuttgart **49** 1953 : 5–9 8 figs.

Haltenorth, Th. (3). Die Wildkatze. Wittenberg-Lutherstadt (A. Ziemsen Verlag), Die neue Brehm-Bücherei, No. 189) pp. 100 25 figs.

Haltenorth, Th. *see* Zukowsky.

Hamar, M. Studiul relaţülor intraspecific la citeva specii de rozătoare, prin metoda săpării galerülor. Natura, Bucureşti. **9** : 104–115 8 figs.

Hamerton, J. L. *see* Ford.

Hamilton, K. F. *see* Grahn.

Hammond, P. Cat's long walk. Ctry. Life, Lond., **121** : 931.

Hanak, V. & Hanyak, J. Bemerkungen zur Verbreitung und Biologie des Bechsteins Fledermaus in der ČSR. Čas. nár. Mus. **126** : 18–22 map. [German summary].

Hanak, V. *see* Gaisler.

Hančar, F. Das Pferd in prähistorischer und früher historischer Zeit. Wiener Beiträge zur Kulturgeschichte und Linguistik **11** 1955 : 1–651 30 pls. figs.

Hancock, J. L. The morphology of boar spermatozoa. J. roy. Micr. Soc. (3) **76** : 84–97 3 pls. 3 figs.

Hancock, J. L. & Trevan, D. J. The acrosome and post-nuclear cap of bull spermatozoa. J. roy. Micr. Soc. (3) **76** : 77–83 3 pls.

Handley, C. O. First records of the occurrence of the long-legged bat (*Macrophyllum*) in Honduras and Venezuela. J. Mammal. **38** : 406–407.

Hansen, A. & Schmidt-Nielsen, K. On the stomach of the camel with special reference to the structure of its mucous membrane. Acta Anat. **31** : 353–375 17 figs.

Hansen, R. M. (1). Extra incisors in the rodent *Dicrostonyx groenlandicus*. J. Mammal. **37** : 1956 [1957] 549–550 1 pl.

Hansen, R. M. (2). Remarks on reported hybrid ground squirrels, *Citellus*. J. Mammal. **37** 1956 [1957] : 550–552.

Hansen, R. M. (3). Remarks on the bifid claws of the varying lemming. J. Mammal. **38** : 127–128, 1 pl.

Hansen, R. M. (4). Influence of daylength on activity of the varying lemming. J. Mammal. **38** : 218–223 4 figs.

Hansen, R. M. (5). Communal litters of *Peromyscus maniculatus*. J. Mammal. **38** : 523.

Hanson, H. C., Queneau, P. & Scott, P. The geography, birds, and mammals of the Perry River region. Spec. Pub. Arctic Inst. N. Amer. No. 3 1956 : 1–96 34 figs. [N.V.]

Hanson, W. R. Density of wood rat houses in Arizona chaparral. Ecology **38** : 650.

Hanström, B. Studies on mammalian neurosecretion. Acta Univ. lund. Andra Afd. N.S. **52** 16 : 1–25 21 figs.

Hanstrom, B. *see* Enemar.

Hanyak, J. *see* Hanak.

Harde, K. W. Das Problem der Furchenbildung in Vorderhirn, untersucht an indischen Sciuriden. Zool. Jb. (Allg. Zool.) **67** : 207–228 5 figs.

Hardy, G. A. Notes on the flora and fauna of the Blenkinsop Lake area on southern Vancouver Island, British Columbia. Rep. Prov. Mus. nat. Hist., Vict., B.C. **1956** 1957 : D25–66 3 figs. [Mammals pp. 58–59].

Hardy, J. D. A note on the feeding habits of the Cuban racer, *Alsophis angulifer* (Bibron). Copeia : 49–50.

Harkness, M. L. R., Harkness, R. D. & McDonald, D. A. The collagen and elastin content of the arterial wall in the dog. Proc. roy. Soc. **146B** : 541–551 3 figs.

Harris, B. J. *see* Baker.

Harris, V. T. The nutria as a wild fur mammal in Louisiana. Trans. N. Amer. Wildl. Conf. **21** 1956 : 474–486 2 figs.

Harrison, D. L. (1). Some systematic notes on the trident bats (*Asellia tridens* E. Geoffroy) of Arabia. Mammalia, Paris, **21** : 1–8 1 pl. 2 figs.

Harrison, D. L. (2). Notes on African bats. 1. Some systematic and anatomical notes on the African bats of the genus *Otomops* Thomas. 2. Some observations on the relationship between the African slit-faced bats *Nycteris hispida* Schreber and *Nycteris aurita* K. Andersen. Durban Mus. Novit. **5** : 17–26 2 pls. 2 figs.

Harrison, D. L. (3). A note on the occurrence of the woolly bat, *Kerivoula cuprosa* Thomas, in Kenya. Rev. Zool. Bot. afr. **55** : 47–48.

Harrison, D. L. (4). A remarkable pied common shrew (*Sorex araneus* Linn.). Naturalist, Lond. No. 862 : 92 1 fig.

Harrison, J. L. (1). Malayan bats. Malayan Mus. Pop. Pamphlet 8 1956 : 1–18, 5 figs.

Harrison, J. L. (2). Habitat of some Malayan rats. Proc. zool. Soc. Lond. **128** : 1–21 10 figs.

Harrison, J. L. (3). Malaysian Parasites—XXXIII. The hosts. Malaysian Parasites XVI–XXXIV. Stud. Inst. Med. Res. Malaya No. 28 : 409–426.

Harrison, J. L., Boo-Liat, L. & Williams-Hunt, P. D. R. Aboriginal names of mammals. Malayan Hist. J. **2** 1955 : 53–57.

Harrison, R. J. Anatomical and functional adaptations in diving mammals. Sch. Sci. Rev. **38** : 191–203 8 pls. 6 figs.

Harrisson, T. (1). Rhinoceros in Borneo : and traded to China. Sarawak Mus. J. **7** 1956 : 263–274 4 pls.

Harrisson, T. (2). Colour of the new Sarawak Dolphin. Sarawak Mus. J. **8** : 265.

Hart, J. S. *see* Irving.

Harvey, W. Movement of the heart and blood in animals. An anatomical essay by W. Harvey. Translated . . . by K. J. Franklin. Oxford (Blackwell Sci. Publ.) pp. xii + 209 : frontis. (col. port.).

Hastings, C. E. Nest of the cotton rat. J. Mammal. **38** : 416.

Hauduroy, P. & Bize, J. Sensibilité et résistance du " campagnol roussatre " (*Clethrionomys glareolus* Schreb.) aux types bovin et humain du bacille tuberculeux. Ann. Inst. Pasteur, Paris **92** : 836–838.

Haugen, A. O. & Speake, D. W. Parturition and early reactions of white-tailed deer fawns. J. Mammal. **38** : 420–421.

Havekost, H. Masse und Gewichte einheimischer Fledermäuse. Z. Säugetierk. **22** : 101–102.

Hawkins, A. & Olszewski, J. Glia/nerve cell index for cortex of the whale. Science **126** : 76–77.

Hawkins, A. E. *see* Clarke.

Hawley, V. D. & Newby, F. E. Marten home ranges and population fluctuations. J. Mammal. **38** : 174–184.

Hay, K. G. Record beaver litter for Colorado. J. Mammal. **38** : 268–269.

Hayman, R. W. (1). Rabbits in Africa. Nature, Lond. **179** : 110.

Hayman, R. W. (2). A new race of the Indian smooth-coated otter from Iraq. Ann. Mag. Nat. Hist. (12) **9** : 710–712.

Hayman, R. W. (3). Further notes on African bats. Rev. Zool. Bot. Afr. **56** : 41–45.

Hayman, R. W. (4). Cattle of the world. Zoo Life, Lond. **12** : 40–49 12 figs.

Hazelwood, Mrs. Mammalia. Naturalist No. 860 : 9–10.

Healy, M. J. R. *see* Ashton.

Hecht, M. K. *see* Koopman.

Heekeren, H. R. van. The Stone Age of Indonesia. 'S-Gravenhage (Nijhoff.) : 1–141 47 pls. figs.

Heerdt, P. F. van & Sluiter, J. W. The results of bat banding in the Netherlands in 1956. Natuurh. Maandbl. **46** : 13–16.

Heerdt, P. F. van *see* Sluiter.

Heezen, B. C. Whales entangled in deep sea cables. Norsk Hvalfangsttid. **46** : 665–681 6 figs.

Heidenreich, E. Toxikologische Unterlagen zur Mäusebekämpfung. Z. angew. Zool. **44** : 1–11.

Heim, A. Auf dem Spuren des Berg-Gorillas. Mitt. naturf. Ges. Bern N.F. **14** : 87–95 6 pls.

Heim de Balsac, H. (1). Évolution des vertèbres caudales chez les Potamogalinae (Mammifères Insectivores Tenrecidae). C.R. Acad. Sci. Paris **245** : 562–564.

Heim de Balsac, H. (2). Insectivores *Soricidae* du Mont Cameroun. Zool. Jahrb. (Syst) **85** : 607–618 9 figs.

Heim de Balsac, H. (3). Insectivores de la famille des *Soricidae* de l'Afrique orientale. Zool. Anz. **158** : 143–153 4 figs.

Heim de Balsac, H. & Lamotte, M. Evolution et phylogénie des soricides africains. (Suite et fin). II. La ligneé *Sylvisorex-Suncus-Crocidura*. Mammalia, Paris **21** : 15–49 9 figs.

Heim de Balsac, H. *see* Dorst.

Helfer, H. *see* Mislin.

Heller, F. Funde und Beobachtungen im Hohlen Stein bei Schambach, Lkr. Eichstätt (Zur Frage der Höhlenbären-Schadeldepositionen). Quartär **9** : 161–170.

Hemming, F. Proposed use of the Plenary Powers to determine the interpretation of the nominal species *Vespertilio murinus* Linnaeus, 1758, type species of the genus *Vespertilio* Linnaeus, 1758, (Class Mammalia) (proposed clarification of a Ruling given in *Opinion* 91.) Bull. zool. Nom. **13** : 107–127.

Hemsley, R. F. A mink trapped. Field, **209** : 90.

Hendrickson, G. O. *see* Crunden.

Hendrickson, G. O. *see* Hubbard.

Hendrickson, G. O. *see* Linder.

Hendrickson, J. (1). A maternity colony of bats. Malay. Nat. J. **11** : 121–125.

Hendrickson, J. R. (2). Young otters in captivity. Malay. Nat. J. **11** : 127–130 1 pl.

Hennig, E. Afrika und Menschwerdung. Geol. Jb. **74** : 1–16.

Heptner, V. G. *see* Geptner.

Herbert, J. & Zuckerman, S. Effect of cerebral lesions upon oestrus in ferrets. Nature, Lond. **180** : 547–548 2 figs.

Hershkovitz, P. (1). The systematic position of the marmoset, *Simia leonina* Humboldt (Primates). Proc. biol. Soc. Wash. **70** : 17–20.

Hershkovitz, P. (2). The type locality of *Bison bison* Linnaeus. Proc. biol. Soc. Wash. **70** : 31–32.

Hershkovitz, P. (3). On the possible occurrence of the spectacled bear, *Tremarctos ornatus* (F. Cuvier, 1825) in Panama. Säugetierk. Mitt. **5** : 122–123 2 figs.

Herter, K. Das Verhalten der Insektivoren. Handb. Zool. Berlin **8** Lfg. 9, Teil 10 (10) : 1–50 42 figs.

Herter, K. & Rauch, H. G. Haltung und Aufzucht chinesischer Zwerghamster (*Cricetulus barabensis griseus* A. Milne-Edwards 1867). Z. Säugetierk. **21** 1956 [1957] : 161–171 17 figs.

Hertwig, P. Erbliche Anamien bei Mäusen. Verh. dtsch. zool. Ges. **1956** 1957 : 185–193 5 figs.

Hess, L. A chimp in the woods. Nat. Hist. N.Y. **66** : 140–144 14 figs.

Hesse, P. R. Identification of the spoor and dung of East African mammals. Part II. The carnivores, ant-bear and hyrax. Afr. wild Life **11** : 317–322 20 figs.

Hewer, H. R. A Hebridean breeding colony of grey seals, *Halichoerus grypus* (Fab.), with comparative notes on the grey seals of Ramsey Island, Pembrokeshire. Proc. zool. Soc. Lond. **128** : 23–66 2 pls. 13 figs.

Hewer, H. R. & Backhouse, K. M. A red-headed grey seal (*Halichoerus grypus*). Proc. zool. Soc. Lond. **128** : 592.

Hewer, H. R. *see* Backhouse.

Heymann, H. Bauchhöhlenschwangerschaft bei einem Meerschweinchen (*Cavia cobaya*) und dessen erfolgreiche Schnittenbindung. Zool. Gart. Lpzg. **23** : 255.

Hibbard, C. W. Two new Cenozoic microtine rodents. J. Mammal. **38** : 39–44 2 figs.

Hibbard, E. A. (1). Range and spread of the gray and the fox squirrels in North Dakota. J. Mammal. **37** 1956 [1957] : 525–531 1 fig.

Hibbard, E. A. (2). Age ratios in wild mink populations. J. Mammal. **38** : 412–413.

Hickling, G. The grey seals of the Farne Islands. A report on investigations carried out between April 1956 and March 1957. Trans. nat. Hist. Soc. Northumb. N.S. **12** : 93–133 5 pls. 3 maps.

Hiehle, J. L. *see* Leach.

Hill, J. E. Record ivory in the collection of the British Museum (Natural History). Tanganyika Notes & Records No. 46 : 29–31 1 fig.

Hill, J. E. *see* Laurie.

Hill, W. C. O. (1). Longevity in the Ceylon ruddy mongoose *Herpestes smithii zeylanius* Thomas. J. Bombay nat. Hist. Soc. **53** 1956 : 687–688.

Hill, W. C. O. (2). Primates; comparative anatomy and taxonomy. III. Pithecoidea, Platyrrhini (Families Hapalidae and Callimiconidae). A Monograph. Edinburgh (University Press) : xix + 354 27 pls. 102 figs.

Hill, W. C. O. (3). Atrichia in mammals. Proc. zool. Soc. Lond. **128** : 145–147.

Hill, W. C. O. (4). Report of the Society's Prosector for the years 1955 and 1956. Proc. zool. Soc. Lond. **129** : 431–446.

Hill, W. C. O. (5). Captive born foetus of woolly monkey (*Lagothrix lagotricha*). Proc. zool. Soc. Lond. **129** : 447–449 1 pl.

Hill, W. C. O. & Booth, A. H. Voice and larynx in African and Asiatic Colobidae. J. Bombay nat. Hist. Soc. **54** : 309–321 2 figs.

Hill, W. C. O., Porter, A., Bloom, R. T., Seago, J. & Southwick, M. D. Field and laboratory studies on the Naked Mole Rat, *Heterocephalus glaber*. Proc. zool. Soc. Lond. **128** : 455–514 8 pls. 11 figs.

Hillemann, H. H., Gaynor, A. I. & Tibbitts, F. D. Reproductive anatomy and function of the male chinchilla. Northw. Sci. **31** : 118–128 2 pls. 4 figs.

Hillemann, H. H. & Tibbitts, F. D. (1). Reproductive potential in Chinchilla. Northw. Sci. **31** : 28–37.

Hillemann, H. H. & Tibbitts, F. D. (2). Reproductive performance in Chinchilla. Northw. Sci. **31** : 92–98.

Hinegardner, R. T. *see* Chew.

Hinks, N. T. & Bolliger, A. Glucuronuria in marsupials. Aust. J. Sci. **19** : 228 229.

Hinze, G. Methodik der Biberzucht. Zool. Gart., Lpz. **23** : 177–184.

Hitchcock, H. B. The use of bird bands on bats. J. Mammal. **38** : 402–405 1 fig.

Hoar, R. M. *see* Goy.

Hobden, D. J. Results of winter trapping for small mammals. Starfish No. 10 15–17.

Hofer, H. (1). Über das Spitshörnchen. Natur u. Volk **87** : 145–155 13 figs.

Hofer, H. (2). Über die Bewegungen des Potto. Natur u. Volk **87** : 409–418 5 figs.

Hoffmann, G. & Schröder, L. (1). Beiträge zur Anatomie des Sumpfbibers (*Myocastor coypus* Mol.). 3. Das Skellett des Ober- und Unterarmes. Zool. Anz. **157** 1956 : 37–42 6 figs.

Hoffmann, G. & Schröder, L. (2). Beiträge zur Anatomie des Sumpfbibers (*Myocastor coypus* Mol.) 4. Das Skelett des Ober- und Unterschenkels. Zool. Anz. **158** : 44–49 6 figs.

Hoffmann, R. A. & Kirkpatrick, C. M. An analysis of techniques for determining male squirrel reproductive development. Trans. N. Amer. Wildl. Conf. **21** 1956 : 346–355 1 fig.

Hoffmeister, D. F. Review of the long-nosed bats of the genus *Leptonycteris*. J. Mammal. **38** : 454–461 1 fig.

Hoffmeister, D. F. & Mohr, C. O. Fieldbook of Illinois mammals. Illinois Nat. Hist. Surv. Manual 4 : xi + 233.

Hoffmeister, D. F. *see* Musgrove.

Hoffmeister, D. F. *see* Parmalee.

Hoffstetter, R. Contribution à l'étude des *Orophodontoidea*, Gravigrades Cuirassés de la Patagonie. Ann. Paléont. **42** 1956 [1957] : 25–64 8 figs.

Höhne, G. *see* Künkel.

Høidal, P. *see* Jonsgard.

Holdenried, R. Natural history of the bannertail kangaroo rat in New Mexico. J. Mammal. **38** : 330–350 7 figs.

Hölder, H. Fledermäuse im Böttinger Marmor. Jh. Ver. vaterl. Naturk. Württemb. **112** : 314–317 1 fig.

Holdgate, M. W. Gough Island—a possible sanctuary. Oryx **4** : 168–176 4 pls. map.

Holloway, H. L. *Sorex dispar* at Mountain Lake, Virginia. J. Mammal, **38** : 406.

Holmes, R. L. The rabbit ductus arteriosus. Nature, Lond. **180** : 1058 1 fig.

Holub, A. Insulin and body temperatures of hamsters (*Cricetus auratus W.*). Rec. Haute Écol. Agric. Brno. Trav. Fac. vet. **1** (22) 1953 : 184–192. [Czech with English summary.]

Hooijer, D. A. (1). The lower boundary of the Pleistocene in Java and the age of Pithecanthropus. Quaternaria **3** 1956 [1957] : 5–10.

Hooijer, D. A. (2). The correlation of fossil mammalian faunas and the Plio-Pleistocene boundary in Java. Proc. K. Ned. Akad. Wet. Amsterdam **60(B)** : 1–10.

Hooijer, D. A. (3). Three new giant prehistoric rats from Flores, Lesser Sunda Islands. Zool. Meded. Leiden. **35** : 301–314 2 pls.

Hooijer, D. A. (4). A *Stegodon* from Flores. Treubia, **24** : 119–129 2 pls.

Hooper, E. T. (1). Dental patterns in mice of the genus *Peromyscus*. Misc. Publ. Mus. Zool. Univ. Mich. No. 99 : 1–59 24 figs.

Hooper, E. T. (2). Records of Mexican mammals. Occ. Pap. Mus. Zool. Univ. Michigan No. 586 : 1–9.

Hooper, E. T. (3). Record of the Mexican harvest mouse (*Reithrodontomys mexicanus*) from Michoacán, Mexico. J. Mammal. **38** : 521–522.

Hooper, E. T. (4). Supernumerary teeth in *Peromyscus truei*. J. Mammal. **38** : 522.

Hopwood, A. T. *see* Butler.

Hough, F. Set hunting pattern of a little brown bat. J. Mammal. **38** : 121–122.

Houpt, T. R. *see* Schmidt-Nielsen.

Housse, R. P. R. Mamiferos de Chile. Order de los Pinipedos. Rev. Univ., Santiago **37** (An. Acad. chil. Cienc. nat. No. 17) 1952 [1953] : 163–175.

Howard, W. E. (1). Melanism in *Peromyscus boylei*. J. Mammal. **38** : 417.

Howard, W. E. (2). Amount of food eaten by small carnivores. J. Mammal. **38** : 516–517.

Hrubesch, K. *Paracricetodon dehmi* n.sp. ein neuer Nager aus dem Oligocän Mitteleuropas. Neues Jb. Geol. Paläont **105** : 250–271 1 pl. figs.

Hu, C. K. An antler fragment of *Stephanocemas* and some teeth of *Aceratherium* from Linchii, Shantung. Vertebrata Palasiatica **1** : 163–166 1 pl. [English summary p. 165].

Hubbard, F. H. & Hendrickson, G. O. Productivity of the cottontail rabbit in Decatur County, Iowa, 1951. Proc. Iowa Acad. Sci. **59** 1952 : 457–460.

Huble, J. Opinions récentes sur l'action de l'hormone de croissance des mammifères. C.R. IIIe Congr. nat. Sci. Brux. **5** [1950] : 34–36.

Hudson, P. *see* Browman.

Hudson, R. The rabbit problem : lessons from New Zealand. Ctry. Life, Lond. **122** : 293 1 fig.

Huey, L. M. A new race of wood rat (*Neotoma*) from the gulf side of Central Baja California, Mexico. Trans. San Diego Soc. nat. Hist. **12** : 287–288.

Huhn, J. Methode und Probleme der Samenübertragung bei Haussäugetieren. Z. Säugetierk. **22** : 136–150 1 pl. 2 figs.

Hurrell, H. G. (1). The nests of the dormouse. Bull. Mammal Soc. Brit. Isles No. 8 : 17–18. [Private circulation].

Hurrell, H. G. (2). Eighth report on mammals. Trans. Devons. Ass. Adv. Sci. Lit. Art. **89** : 287–288.

Hurzeler, J. *see* Zapfe.

Husson, A. M. (1). Notes on the primates of Suriname. Natuurwet. Stud. Suriname No. 16 : 13–40 map 8 pls.

Husson, A. M. (2). Faunistische gegevens over de zoogdieren van Zuid-Limburg. Natuurh. Maandbl. **46** : 61–81.

Husson, R. Sur la présence du rat musqué ou Ondatra (*Fiber zibethicus* L.) dans le territoire de la Sarre. Ann. Univ. Saraviensis. Sci. **6** : 67–73 3 pls.

Husson, R. & Daum, J. Beitrag zur Chiropterenfauna alter Bergwerksstollen und künstlicher Höhlen im Saarland, in Lothringen und im französischen Jura. Ann. Univ. Saraviensis. Sci. **6** : 74–81.

Husted, L., Pollock, E. G. & Smart, G. C., Jr. The sex bivalent of the Chinese hamster (*Cricetulus griseus*). Virginia J. Sci. N.S. **8** : 121–127 37 figs.

Ichihara, T. An application of linear discriminant function to external measurements of fin whale. Sci. Rep. Whales Res. Inst., Tokyo, No. 12 : 127–189 3 figs.

Ijsseling, M. A. & Scheygrond, A. Wat is dat voor Dier? Tabellen ter vaststelling van de naam der voornaamste in Noordwest- en Midden-Europa in wilde staat levende zoogdieren, kruipende en tweeslachtige dieren. Zutphen (W. J. Thieme & Cie.) : pp. iv + 96, 36 pls. [4 col.] text illust.

Iles, G. T. Giraffes in the Zoological Gardens Belle Vue, Manchester 1929–1954. Zool. Gart., Lpz. **23** : 162–177 10 figs.

Imaizumi, Y. Taxonomic studies on the red-backed vole from Japan. Part 1. Major divisions of the vole and descriptions of *Eothenomys* with a new species. Bull. nat. Sci. Mus., Tokyo, **3** : 195–216 2 pls. 10 figs.

Ingham, S. E. Elephant seals in the Antarctic Continent. Nature, Lond. **180** : 1215–1216.

Ingles, L. G. Observations on behavior of the coatimundi. J. Mammal. **38** : 263–264 1 pl.

Irving, L. & Hart, S. The metabolism and insulation of seals as bare-skinned mammals in cold water. Canad. J. Zool. **35** : 497–511 7 figs.

Irving, L., Krog, J. & H., & Monson, M. (1). Metabolism of varying hare in winter. J. Mammal. **38** : 527–529 1 fig.

Irving, L., Schmidt-Nielsen, K. & Abrahamsen, N. S. B. (2). On the melting points of animal fats in cold climates. Physiol. Zool. **30** : 93–105 3 figs.

Ishii, J. *see* Minato.

[**Ismaghilov, M. I.**] (1). [Contribution to the ecology of *Marmota bobac centralis* Thoms.]. Zool. Zh. **35** 1956 : 908–915 2 figs. [English summary.]

[**Ismagilov, M. I.**]. (2). [Observations on *Selevinia*.] Izv. Akad. Nauk Kazakh. SSR **2** (14) : 77–82 map. [In Russian].

[**Ivanov, O. A.**] [On the mobility and diurnal activity rhythm of the marmots (*Citellus pygmaeus* Pall.) in Western Kazakhstan in different periods of their activity.] Zool. Zh. **36** : 922–932. [English summary.]

Ivanov, O. A. & Polyakov, I. J. On the relations within the population of *Citellus pygmaeus* Pall. J. gen. Biol., Moscow **18** : 312–320. [English summary.]

Ivanov, V. V. *see* Kirganova.

[**Ivanova, T. S.**] [Sensory elements of the small intestine.] C.R. Acad. Sci. URSS **114** : 896–898 4 figs. [In Russian.]

Jackson, H. H. T. (1). The status of *Eutamias minimus jacksoni*. J. Mammal. **38** : 518–519.

Jackson, H. H. T. (2). An unrecognized pocket gopher from Wisconsin. Proc. biol. Soc. Wash. **70** : 33–34.

Jacob, G. F. & Tappen, N. C. Abnormal haemoglobins in monkeys. Nature, Lond. **180** : 241–242 1 fig.

Jacobi, E. F. Recuperative power of the horn of the Black Rhinoceros (*Rhinoceros bicornis* L.). Zool. Gart., Lpz. **23** : 223–227 6 figs.

Jacobs, G. J. Blood values of two American carnivores. J. Mammal. **38** : 261–262.

Jacobshagen, V. *see* Udluft.

Jaeger, P. Le Parc biologique de Bamako. Nature, Paris No. 3268 : 312–318 15 figs.

Jahn, G., Bergersen, B. & Vangstein, E. (1). Int. Whal. Statist. **37** : 1–68.

Jahn, G., Bergersen, B. & Vangstein, E. (2). Int. Whal. Statist. **38** : 1–54.

James, G. T. An Edentate from the Pleistocene of Texas. J. Paleont. **31** : 796–808 2 pls. 4 figs.

James, W. W. A further study of dentine. Trans. zool. Soc. Lond. **29** : 1–66 10 pls. 4 figs.

Janda, M. Beitrag zur Verbreitung des Schwarzwildes (*Sus scrofa* L.) im Ostrauer Kreise. Přírod. Sb. ostravsk. Kraje **18** : 417–421 map. [German summary.]

Janes, D. W. Body temperature in the eastern cottontail. J. Mammal. **38** : 137.

Jarnum, S. A. *see* Schmidt-Nielsen.

Jawłowski, H. On the bulbus olfactorius and bulbus olfactorius accessorius of some mammals. Ann. Univ. M. Curie-Skłodowska **10C** 1956 : 67–86 2 pls. 19 figs.

Jayal, N. D. Tiger tracks at high altitude in northern Sikkim. J. Bengal nat. Hist. Soc. **28** 1956 : 168.

Jayawardene, F. L. W. *see* Kanagasuntheram.

Jeannette, A. *see* Ennouchi.

Jelinek, A. J. Pleistocene faunas and early man. Pap. Mich. Acad Sci. **42** : 225–237.

Jenkins, D. A note on the abundance of harvest mice (*Micromys minutus*) in North Hampshire in 1955. Proc. zool. Soc. Lond. **128** : 604.

Jenkins, T. W. Special anatomical features of the cranial nerves of the fox squirrel, *Sciurus niger rufiventer* (Geoffroy). Anat. Rec. **126** 1956 : 241–251 3 figs.

Jennings, W. L. & Layne, J. N. *Myotis sodalis* in Florida. J. Mammal. **38** : 259.

Jernakov, V. N. *see* Gordeev.

Jewell, P. A. & Verney, E. B. An experimental attempt to determine the site of the neurohypophysial osmoreceptors in the dog. Phil. Trans. **240B** : 197–324 5 pls. 58 figs.

Johnson, A. L. Seal marking 1956–57. Nature in Wales **3** : 377–381 2 pls. map.

Johnston, R. F. Adaptation of salt marsh mammals to high tides. J. Mammal. **38** : 529–531.

Johnston, R. F. & Rudd, R. L. Breeding of the salt marsh shrew. J. Mammal. **38** : 157–163 2 figs.

Johnstone, G. E. *see* Page.

Jones, F. L. Southern extension of the range of the pygmy rabbit in California. J. Mammal. **38** : 274.

Jones, F. L., Flittner, G. & Gard, R. Report on a survey of bighorn sheep in the Santa Rosa Mountains, Riverside County. Calif. Fish Game **43** : 178–191 3 figs.

Jones, F. L. *see* Beauchamp.

Jones, J. K., Jr. (1). A dental abnormality in the shrew, *Crocidura lasiura*. Trans. Kansas Acad. Sci. **60** : 88–89 1 fig.

Jones, J. K. (2). Checklist of mammals of Nebraska. Trans. Kansas Acad. Sci. **60** : 273–282.

Jones, J. K. & Barber, A. A. Home ranges and populations of small mammals in central Korea. J. Mammal. **38** : 377–392 1 pl. 2 figs.

Jones, J. K. *see* Hall.

Jonsgard, A. & Høidal, P. Strandings of Sowerby's Whale *Mesoplodon bidens* on the west coast of Norway. Norsk Hvalfangsttid. **46** : 507–512 2 figs.

Jonsgard, A., Ruud, J. T. & Øynes, P. Is it desirable and justified to extend the open season for humpback whaling in the Antarctic? Norsk. Hvalfangsttid. **46** : 160–177.

Joubert, D. M. & Bonsma, J. C. Duration of pregnancy in the domestic pig. S. Afr. J. Sci. **53** : 340–341 1 fig.

Jouffroy, F. K. & Lessertisseur, J. Particularités musculaires de l'avant-bras et de la main chez un Chimpanzée, *Pan troglodytes* (Owen). Bull. Mus. Hist. nat. Paris (2) **29** : 121–126 3 figs.

Jude, A. C. & Searle, A. G. A fertile tortoiseshell tomcat. Nature, Lond. **179** : 1087–1088.

Justice, K. E. The pigmy mouse in southeastern Arizona. J. Mammal. **38** : 520–521.

Kagelmann, G. Der Ur in den letzten zeitgenössischen Darstellungen der mitteleuropaischen Kunst. Kosmos, Stuttgart, **50** 1954 : 570—575 7 figs.

Kahmann, H. (1). Unsere Mäuse. Kosmos, Stuttgart **51** 1955 : 356–364 15 figs.

Kahmann, H. (2). Der Nachweis der Fledermaus *Barbastella barbastellus* Schreber 1774 auf der Insel Sizilien. Zool. Anz. **158** : 139–143.

Kahmann, H. (3). Gibt es zwei gestaltlich unterscheidbare Ökotypen der Waldmaus auf der Insel Sizilien. Zool. Anz. **159** : 153–159.

Kahmann, H. & Altner, H. Die Verbreitung des Abendseglers, *Nyctalus noctula* (Schreber, 1774), auf den Tyrrhenischen Inseln und Sizilien. Säugetierk. Mitt. **5** : 120–121 1 fig.

Kahmann, H. & Haedrich, B. (1). *Rattus norvegicus* Erxleben 1777 auf der Insel Korsika. Mammalia, Paris. **21** : 50–52.

Kahmann, H. & Haedrich, B. (2). Eine Untersuchung an *Rattus rattus* Linnaeus 1758 (Mamm., Rod.) auf der Insel Korsika. Zool. Anz. **158** : 233–257 9 figs.

Kalela, O. Regulation of reproductive rate in subarctic populations of the vole *Clethrionomys rufocanus* (Sund.). Ann. Acad. Sci. fenn. **4A** 34 : 1–60 13 figs.

Kamiya, T. *see* Ogawa.

Kanagasuntheram, R. & Jayawardene, F. L. W. The intrinsic muscles of the hand in the Slender Loris. Proc. zool. Soc. Lond. **128** : 301–312 9 figs.

[**Kantorova, V. I.**] [The structure of the placenta in the cow, (*Bos taurus*).] C.R. Acad. Sci. Moscow **112** : 972–975 1 pl. [In Russian.]

Kanwisher, J. & Leivestad, H. Thermal regulation in whales. Norsk. Hvalfangsttid. **46** : 1–5 1 fig.

Kapitonov, V. I. On the interrelations of certain predatory birds and marmots in the tundra of West Yakutia. Zool. Zh. **36** : 1228–1232. [Russian with English summary.]

Kappers, J. A. (Ed.). Progress in neurobiology. Proceedings of the first international meeting of neurobiologists, Groningen, 1955. Amsterdam (Elsevier Publ. Co.) 1956 : xii + 1–384.

[**Karasev, M. A.**] [Occurrence of *Saiga tatarica* in Rostov Land.] Priroda **8** : 99–100 map. [In Russian.]

Karaseva, E. V., Narskaya, E. V. & Bernstein, A. D. (1). The *Microtus oeconomus* inhabiting the neighbourhood of Lake Nero in Yaroslav region. Bull. Soc. Nat. Moscow. Biol. **62** : 5–18 7 figs. [English summary.]

Karaseva, E. V., German, A. L. & Korenberg, E. I. (2). Nutrition of the hen-harrier and its influence on the epizooty of nonicteric leptospirosis in the population of the *Microtus oeconomus*. Bull. Soc. Nat. Moscow. Biol. **62** : 11–18. [English summary.]

[**Karlov, N. N.**] [Fossil wild horse and cave bear from the loess of Dnipropetrovsk.] Priroda No. 3 : 107–108 fig. [In Russian.]

Kayser, Ch. Le sommeil hivernal et les glandes surrénales. Etude faite sur le hamster ordinaire, *Cricetus cricetus*. C.R. Soc. Biol., Paris **151** : 982–985.

Kayser, Ch. *see* Lachiver.

Kayser, C. *see* Weill.

Kellogg, R. Two additional Miocene porpoises from the Calvert Cliffs, Maryland. Proc. U.S. Nat. Mus. **107** : 279–337 30 pls.

Kellogg, R. & Whitmore, F. C. Marine mammals, pp. 1223–1226 in Vol. 1 (Ecology) and pp. 1021–1024 in Vol. 2 (Paleoecology), **Ladd, H. S.** (Ed.). Treatise on marine ecology and paleoecology, Mem. Geol. Soc. Amer. No. 67.

Kelsall, J. P. Continued barren-ground caribou studies. Wildl. Mgmt. Bull. (1) No. 12 : 1–148 29 figs.

Kenyon, K. W. The sea otter. Oryx **4** : 153–158 1 pl.

Kepka, O. *see* Anschau.

Key, H. A. S. Mammals. Bedford Nat. No. 10 : 28–29.

Khajuria, H. (1). A preliminary study on the conservation of the Great one-horned rhinoceros in the Kaziranga Wild Life Sanctuary, Sibsagar district, Assam. Proc. Indian sci. Congr. Ass. 43rd **4** 1956 : 38.

Khajuria, H. (2). A new genus and species of Indian Chiroptera. Proc. Indian Sci. Congr. Ass. 43rd **4** 1956 : 39 (Abstract.)

Khajuria, H. *see* Biswas

Kharkova, N. M. *see* Gusev.

Khattab, F. I. *see* Moussa.

[**Kholostov, V. G.**] [Wild boar in Archangel Region.] Bull. Soc. Nat. Moscow biol. **61** 4 1956 : 82. [In Russian].

Khronopulo, N. P. & Drosdova, L. P. Light regime and sexual function of minks (Lutreola vison). Zool. Zh. **36** : 938–945 3 figs. [Russian with English summary.]

Kidiraliev, A. *see* Yanushevich.

Kimura, S. The twinning in southern fin whales. Sci. Rep. Whales Res. Inst., Tokyo. No. 12 : 103–125 13 figs.

Kindahl, M. On the development of the tooth in *Tupaia javanica*. Ark. Zool. **10** : 463–479 17 figs.

King, A. S. The cervical course of the aortic nerve of the horse. J. Anat., Lond. **91** : 228–236 1 pl.

King, J. A. (1). Social relationships of the domestic guinea pig living under semi-natural conditions. Ecology **37** 1956 : 221–228 2 figs.

King, J. A. (2). Intra- and interspecific conflict of *Mus* and *Peromyscus*. Ecology **38** : 355–357.

King, J. E. On a pup of the crabeater seal *Lobodon carcinophagus*. Ann. Mag. nat. Hist. (12) **10** : 619–624 1 pl. 1 fig.

King, J. E. *see* Becker.

Kinney, A. R., Ecke, D. H. & Miles, V. I. Modification of a live-catch rodent trap to protect small mammals. J. Mammal. **38** : 531–533 1 fig.

Kinney, A. R. *see* Miles.

Kiris, I. B. *see* Pavlov.

Kirkpatrick, C. M. *see* Hoffman.

Kirkpatrick, R. D. *see* Neal.

[**Kirpichnikov, A. A.**] [Observations on the distribution of large Cetaceans in the Atlantic.] [Priroda No. 10, 1950 : 63–64.]

[**Kiryanova, O. D. & Ivanov, V. V.**] [On the role of plants as the nest-building material of *Citellus pygmaeus*.] Zool. Zh. **36** : 1263–1265. [English summary.]

Kitts, D. B. (1). A revision of the genus *Orohippus* (Perissodactyla, Equidae). Amer. Mus. Novit. No. 1864 : 1–40 9 figs.

Kitts, D. B. (2). A Pliocene vertebrate fauna from Ellis County, Oklahoma. Cir. Okla. geol. Surv. **45** : 1–27 1 pl.

Kitts, W. D., Bose, R. J., Wood, A. J. & Cowan, I. McT. Preliminary observations on the digestive enzyme system of the beaver (*Castor canadensis*). Canad. J. Zool. **35** : 449–452.

Kitts, W. D. *see* Bandy.

Klein, H. G. Inducement of torpidity in the woodland jumping mouse. J. Mammal. **38** : 272–274.

Klein, M. Hermaphroditism in a mouse related to strain A. Quart. J. Fla. Acad. Sci. **18** 1955 : 223–225.

[**Kleinberg, S. E.**] [Protection of walrus.] Priroda No. 7 : 101–103 fig. [In Russian.]

Klemmer, K. Eine Methode zum Fang fliegender Fledermäuse. Säugetierk. Mitt. **5** : 118–120 1 fig.

Klimstra, W. D. An additional record of *Reithrodontomys* in Illinois. J. Mammal. **38** : 522–523.

Knorr, H. *see* Eisentraut.

Knorre, E. *see* Semenov-Tian-Shansky.

Koenig, L. Beobachtungen über Reviermarkierung sowie Droh-, Kampf- und Abwehrverhalten des Murmeltieres (*Marmota marmota* L.). Z. Tierpsychol. **14** : 510–521 8 figs.

Koenigswald, G. H. R. von. (1). Post-scriptum to the paper of Dr. D. A. Hooijer : " The lower boundary of the Pleistocene in Java and the age of Pithecanthropus. Quaternaria **3** 1956 [1957] : 11.

Koenigswald, G. H. R. von. (2). Remarks on *Gigantopithecus* and other hominoid remains from Southern China. Proc. K. ned. Akad. Wet. Amst. **60B** : 153–159 1 pl. 1 fig.

Koersveld, E. v. & others. Wildlife repellents. Minutes of the meeting on wildlife repellents at Arnhem (Netherlands) on 3rd and 4th October 1955. Meded. Inst. Toegep. biol. Onderz. Nat. **32** : 1–83.

Koford, C. B. The vicuna and the puna. Ecol. Monogr. **27** : 153–219 19 figs.

Kolb, A. Aus einer Wochenstube des Mausohrs, *Myotis m. myotis* (Borkhausen 1797). Säugetierk. Mitt. **5** : 10–18 4 figs.

Kolbutov, A. D. *see* Vereshchagin.

Kolosváry, G. [Mammals in] Das Leben der Tisza. I. Über die Tierwelt der Tisza und ihrer Inundationsgebiete. Acta biol., Szeged N.S. **3** : 103–104.

König, C. & Epple, A. Die Wimperfledermaus, *Myotis emarginatus* (Geoffroy, 1806) auch in der Pfalz. Säugetierk. Mitt. **5** : 123–124.

Konizeski, R. L. Paleoecology of the Middle Pliocene Deer Lodge local fauna, Western Montana. Bull. geol. Soc. Amer. **68** : 131–150 figs.

Koopman, K. F. Bats from San Luis Potosi with a new record for *Balantiopteryx plicata*. J. Mammal. **37** 1956 [1957] : 547–548.

Koopman, K. F., Hecht, M. K. & Ledecky-Janecek, E. Notes on the mammals of the Bahamas with special reference to the bats. J. Mammal. **38** : 164–174 1 fig.

Korenberg, E. I. *see* Karaseva.

Korkman, N. Selection with regard to the sex difference of body weight in mice. Hereditas **43** : 665–678 3 figs.

[**Korotkevich, O. L.**] [Giraffes in Berislav hipperion fauna.] Trud. Inst. Zool. Kiev **14** : 129–140. [In Ukrainian with Russian summary.]

Kortenbont van der Sluijs, G. Preliminary note on the first find of *Ovibos* in the Netherlands. Proc. ned. Akad. Wet. Amer. **60B** : 120–122 2 pls.

Koski, K. *see* Garn.

Koskimies, J. Studies on the winter habitat preferences of the snow hare, *Lepus timidus* L. Arch. Soc. zool.-bot. fenn. Vanamo **12** : 29–37 3 figs.

Kosman, A. J. *see* Morgane.

Kourist, W. Das Haarkleid des Hamsters (*Cricetus cricetus cricetus* Linné, 1758). Wiss. Z. M. Luther Univ. Halle-Wittenberg. Math.-Nat. R. **6** : 413–437 25 figs.

[**Kovaleva, L. S.**] [Occurrence of leopard in the Northern Caucasus.] Priroda No. 4 : 116. [In Russian.]

Kowalski, K. *Microtus nivalis* (Martins, 1842) (Rodentia) in the Carpathians. Acta Theriologica Warsaw **1** : 159–182 5 figs. [In English.]

Kowalski, K., Krzanowski, A. & Wojtusiak, R. J. Report on bat-banding in Poland in the years 1939–1953. Acta Theriologica Warsaw **1** : 109–158. [Polish with English summary.]

[**Kozhamkulova, B. S.**] [Fossil mammals of anthropogen of Kazakhstan in the collections of the Republic's museums.] Izv. Akad. Nauk. Kazakhstan SSR. Biol. **2** (14) : 31–41. [In Russian.]

Kraft, H. (1). Das Verhalten von Muttertier und Neugeborenen bei Cameiden. Säugetierk. Mitt. **5** : 174–175.

Kraft, H. (2). Lethargie-Zustand eines Weisspinseläffchens, *Callithrix jacchus* (Linné, 1766). Säugetierk. Mitt. **5** : 175–176.

Krammer, H. Der Gemsen-Kindergarten. Kosmos, Stuttgart **53** : 188–193 9 figs.

Kratochvil, J. Beitrag zur Populationsdynamik der Bisamratte (*Ondatra zibethica*) in den Bedingungen von Südböhmen. Acta Univ. Agric. Silv. Brno **1956A** : 29–45 2 pls. 8 figs. [German summary.]

Kretzoi, M. *Cryptoprocta* und die monophyletische Enstehung der Carnivoren. Z. Säugetierk. **22** : 45–49 4 figs.

Krishna, D. & Prakash, I. (1). Systematics, ecology and distribution of the mammals of the desert of Rajasthan. Proc. Indian sci. Congr. Ass. 43rd **4** 1956 : 37–38.

Krishna, D. & Prakash, I. (2). Food preferences of the desert hedgehog, *Hemiechinus auritus collaris* Gray. Proc. Indian sci. Congr. Ass. 43rd **4** 1956 : 39–40.

Krishna, D., Prakash, I. & Sharma, S. C. Ecological studies on the bats of the desert of Rajasthan. Proc. Indian sci. Congr. Ass. 43rd **4** 1956 : 38–39 (Abstract).

Krishnaswami, S. & Chowhan, N. S. A note on insects consumed as food by squirrels and birds at Kundri Forest, Palamau District, Bihar. J. Bombay nat. Hist. Soc. **54** : 457–459.

Krishnaswami, S., Chauhan, N. S. & Negi, P. S. Studies on non-insect enemies of lac, with special reference to squirrels and birds as serious seasonal predators. J. Bombay nat. Hist. Soc. **54** : 887–907 1 fig.

Kristensen, I. Een Grijze zeehond (*Halichoerus grypus*) bij Texel. Levende Nat. **60** : 62–63 1 fig.

Krivda, W. New Manitoba record for the short-tailed shrew. Canad. Fld. Nat. **71** : 83.

Krivosheyev, V. G. *see* Rotschild.

Krog, J. & H. *see* Irving.

Krohn, P. L. *see* Barnes.

Krott, P. Das heutige Vorkommen des Vielfrasses (*Gulo gulo* L.) in Europa. Z. Säugetierk. **22** : 208–213 1 fig.

Krüger, P. Uber den Zusammenhang von Struktur und Funktion bei Säugetiermuskeln. Anat. Anz. **104** : 193–200 3 figs.

Kruizinga, P. (1). Fragments of a skull of *Crocuta crocuta spelaea* (Goldf.) from the Wester Schelde. Geol. en mijnb. **19** : 499–504 4 figs.

Kruizinga, P. (2). Een bikkenfragment van *Cervus* sp. uit de klei van Tegelen. Natuurh. Maandbl. **46** : 8–13 4 figs.

Krumbiegel, I. Populationsgrosse und intraspeciale Differenzierung von Tierarten. Verh. dtsch. zool. Ges. **1956** 1957 : 374–379 3 figs.

Kryltsov, A. I. Weight changes of *Lagurus lagurus* Pall. with their sex and age. Zool. Zh. **36** : 1239–1250.

Krzanowski, A. *see* Kowalski.

Kubik, J. Vorläufige Untersuchungen über die Gattung *Arvicola* Lacépede. Ann. Univ. M. Curie-Skłodowska **10C** : 245–268. 3 pls. [German summary.]

Kucheruk, V. V. *see* Tupikova.

[**Kudryashova, N. I.**] [On the biology of Stavropol hedgehogs *Erinaceus europaeus* and *E. auritus*.] Trud. Nauch. Issled. Protiv. Inst. Stavropol **1** 1956 : 441–454 2 fig. [In Russian.]

Kudryashova, N. I. *see* Chugunov.

Kulzer, E. Über die Orientierung der Fledermäuse. Aus der Heimat **65** : 132–139 6 pls.

Kulzer, E. *see* Möhres.

Künkel, H. A., Höhne, G. & Maass, H. Der Einfluss von Cystein und Winterschlaf auf die Überlebensrate röntgen bestrahlter Siebenschläfer (*Glis glis*). Z. Naturf. **12B** : 144–147 1 fig.

Kuntz, A. Das Autonome Nervensystem. Handb. Zool., Berl. **8** 7 (4) : 1–42 (Lfg. 11) : 25 figs.

Kurtén, B. (1). Mammal migrations, Cenozoic stratigraphy, and the age of Peking Man and the Australopithecines. J. Paleont. **31** : 215–227.

Kurtén, B. (2). A note on the systematic and evolutionary relationships of *Felis teilhardi* Pei. Vertebrata Palasiatica **1** : 123–128 2 figs.

Kurten, B. (3). A case of Darwinian selection in bears. Evolution **11** : 412–416 2 figs.

Laar, V. van. De landzoogdieren van het Deltagebied. Natura, Amst. **54** : 139–142 1 fig.

Lachiver, F., Olivereau, M. & Kayser, Ch. L'activité de la thyroide chez un hibernant, le lérot (*Eliomys quercinus* L.) en hiver et au printemps. C.R. Soc. Biol. Paris **151** : 653–656.

Ladd, H. S. *see* Kellogg.

Lagiglia, H. A. Nota sobre la retrocesión y conservación del *Chlamyphorus truncatus* Harl. Dentro de la fauna Mendocina. Rev. Mus. Hist. nat. San Rafael **1** 1956 : 33–34.

Lamberton, C. Examen de quelques hypothéses de Sera concernant les Lémuriens fossiles et actuels. Bull. Acad. Malgache N.S. **34** : 51–65.

Lamotte, M. *see* Heim de Balsac.

Lampkin, G. H. *see* Quarterman.

Lande, O. (1). Chromosome number in the ferret (*Putorius furo*). Nature, Lond. **180** : 1213 1 fig.

Lande, O. (2). The chromosomes of Mink. Hereditas **43** : 578–582 6 figs.

Landry, S. O. (1). Factors affecting the procumbency of rodent upper incisors. J. Mammal. **38** : 223–234 5 figs.

Landry, S. O. (2). The relationship of *Petromys* to the Octodontidae. J. Mammal. **38** : 351–361 4 figs.

Landry, S. O. (3). The interrelationships of the New and Old World Hystricomorph rodents. Univ. Calif. Publ. Zool. **56** : 1–118 5 pls. 37 figs.

Landry, S. D. (4). The occurrence of certain foramina in the frontal bones of shrews (Soricidae). Ann. Mag. nat. Hist., (12) **10** : 17–24 2 figs.

Landsheere, J. de. Observations concernant la capture, l'élevage et les soins de l'Okapi. Zoo. Antwerp **23** : 12–25 18 figs.

Lane, C. *see* Rothschild.

Lane-Petter, W. The International Committee on Laboratory Animals. Nature, Lond. **179** : 240–241.

Lane-Petter, W. *see* Bloom.

Lane-Petter, W. *see* Worden.

Lang, E. M. (1). Geburt eines Panzernashorns, *Rhinoceros unicornis*, in Zoologischen Garten Basel. Säugetierk. Mitt. **5** : 69–70 1 fig.

Lang, E. M. (2). Stimmlicher Kontakt von Okapis untereinander. Säugetierk. Mitt. **5** : 171.

Lang, K. *see* Siebert.

Langer, H. *see* Langer-Schierer.

Langer-Schierer, H. & Langer, H. Zur Frage der Funktion des braunen Fettgewebes bei winterschlafenden Säugetieren. Z. Naturf. **12B** : 587–589.

Lanza, B. (1). Note sul cuscinetto buccale dei Chirotteri. Boll. Zool. **23** 1956 (1957) : 263–273 4 figs.

Lanza, B. (2). Su alcuni Chirotteri della penisola balcanica : presenza di *Eptesicus nilssoni nilssoni* (Keyserling e Blasius, 1839) in Jugoslavia. Monit. Zool. ital. **65** : 3–6.

[Lapin, I.] [The muridae of Latvia.] Vestn. Latv. P.S.R. zin. Akad. 2 (103) 1956 : 87–92. [Russian summary.]

Lasch, W. *see* Bodenheimer.

Laurie, E. M. O. & Hill, J. E. Renaming of *Miniopterus australis minor* Laurie and Hill. J. Mammal. **38** : 128.

Lavocat, R. La faune de Rongeurs des grottes à Australopithequès. Palaeont. Africana **4** : 69–75 4 figs.

[Lavrentyeva, N. B.] [The sensitivity of the dog's tongue muscles innervation.] Bull. Soc. Nat. Moscow biol. **62**, 2 : 105–106. [In Russian.]

Lavrov, L. Erfahrungen mit der Beringung von Fledermäusen in der SSSR. Arbeiten des Buro für Beringung, Liefg. 8, Moscow 1955. [German summary by **Ottow B.**, Säugetierk. Mitt. **5** : 83–85.]

[**Lavrova, M. Y. & Karaseva, E. V.**] [Activities of birds of prey and field vole population in the South of Moscow region.] Bull. Soc. Nat. Moscow biol. **61** 3 1956 : 5–19 11 figs. [English summary.]

Lavrova, M. Y. *see* Tupikova.

[**Lavrovski, A. A. & Kolesnikov, I. M.**] [Contributions to the knowledge of the rodents of the Daghestan Republic.] Trud. Nauch.-Issled. Protiv. Inst. Stavropol. **1** 1956 : 277–353 19 figs. [In Russian.]

Lawn, A. M. *see* Bell.

Laws, R. M. (1). The Elephant Seal (*Mirounga leonina* Linn.) II. General, social and reproductive behaviour, No. 13, 1956 : 1–88 7 pls. 30 figs. III. The physiology of reproduction. No. 15 1956 : 1–66 5 pls. 17 figs. Sci. Rep. Falkland Is. Depend. Surv.

Laws, R. M. (2). On the growth rates of the Leopard Seal, *Hydrurga leptonyx* (De Blainville, 1820). Säugetierk. Mitt. **5** : 49–55 7 figs.

Laws, R. M. (3). Polarity of whale ovaries. Nature, Lond. **179** : 1011–1012, 1 fig.

Laws, R. M. & Taylor, R. J. F. A mass dying of crabeater seals, *Lobodon carcinophagus* (Gray). Proc. zool. Soc. Lond. **129** : 315–324 1 pl. 4 figs.

Laycock, W. A. Seasonal periods of surface inactivity of the pocket gopher. J. Mammal. **38** : 132–133.

Layne, J. N. Homing behavior of chipmunks in central New York. J. Mammal. **38** : 519–520.

Layne, J. N. *see* Caldwell.

Layne, J. N. *see* Jennings.

Leach, H. R. & Hiehle, J. L. Food habits of the Tehama Deer Herd. Calif. Fish. Game **43** : 161–178 8 figs.

Lebedeva, L. S. *see* Bannikov.

Lebedkina, N. S. Morpho-functional analysis of the jaw apparatus in Leporidae. Zool. Zh. **36** : 1539–1556 10 figs. [Russian with English summary.]

Lechleitner, R. R. Reingestion in the black-tailed jack rabbit. J. Mammal. **38** : 481–485 1 fig.

Ledecky-Janecek, E. *see* Koopman.

Legler, J. M. *see* Brecheisen.

Legouix, J. P. L'audition chez les mammifères. Mammalia, Paris **21** : 396–404.

Le Gros Clark, W. E. Arthur Keith, 1866–1955. Biogr. Mem. roy. Soc. **1** 1955 : 145–161 portr.

Lehmann, E. v. (1). Heimfindeversuche mit kleinen Nagern. Z. Tierpsychol. **13** 1956 : 485–491 1 fig.

Lehmann, E. V. (2). Die Bestandsdichte der Waldmaus, *Apodemus s. sylvaticus*, in einem Versuchsrevier der Voreifel. Säugetierk. Mitt. **5** : 70–72 1 fig.

Lehmann, E. v. (3). Zur Evolution des oberen Eckzahnes bei einigen Hirschen. Bonn. Zool. Beitr. **8** : 86–89 5 figs.

Lehmann, U. (1). Weitere Fossilfunde aus dem ältesten Pleistozän der Erpfinger Höhle (Schwabishe Alb). Mitt. geol. (St.) Inst. Hamb. **26** : 60–99 4 pls. 27 figs.

Lehmann, U. (2). Eine jungpleistozäne Wirbeltierfauna aus Ostafrika. (Material der Expedition Kohl-Larsen 1938 von der Mumba-Höhle). Mitt. geol. (St.) Inst. Hamb. **26** : 100–140 3 pls. 26 figs.

Leivestad, H. *see* Kanwisher.

Lemke, C. W. An unusually late pregnancy in a Wisconsin cottontail. J. Mammal. **38** : 275.

Lengerken, H. V. Unbeständigkeit der Lendenwirbelzahl beim Przewalskipferd, Hauspferd und Hausschwein. Säugetierk. Mitt. **5** : 157–160.

Lessertisseur, J. *see* Jouffroy.

Lever, R. A. Two records of foxes eating larval hover flies and dor beetles. Proc. zool. Soc. Lond. **128** : 596–597.

Lewis, O. J. The form and development of the blood vessels of the mammalian cerebral cortex. J. Anat., Lond. **91** : 40–46 2 pls. 1 fig.

Lewis Jones, D. Where were the voles? Field, **210** : 681.

Leyhausen, P. Das Beutespiel der Katzen. Umschau **57** : 225–228 15 figs.

Libby, W. L. Observations on beaver movements in Alaska. J. Mammal. **38** : 269.

[**Likhachev, G. N.**] [Certain data on feeding habits of the elk in Tula oak groves.] Zool. Zh. **36** : 1900–1902. [English summary.]

Lilley, K. Hedgehog v. snake. Field **209** : 480.

Lindemann, W. Der Luchs und seine Bedeutung im Haushalt der Natur. Kosmos, Stuttgart **52** 1956 : 187–193 8 figs.

Linder, R. L. & Hendrickson, G. O. Use of rearing cover by Mearns cottontail. Proc. Iowa Acad. Sci. **63** 1956 : 732–736.

Lindsay, D. M. Some bat records from southeastern Indiana. J. Mammal. **37** 1956 [1957] : 543–545.

Ling, H. (1). Uued karusnahaloomad Eesti NSV-S ja juhend neude vaatlustek. Abiks Loodus., Tartu No. 6 1952 : 1–42 12 figs.

Ling, H. (2). Materjale Eesti NSV nahkiirlaste faunast. Loodus. Seltsi Juubel. 1853–1953 Tallinn 1953 : 293–312 3 figs.

Ling, H. (3). Materialen zur Bewertung der Volkwirtschaftlichen Bedeutung des Fuchses in der Estnischen SSR. Loodus. Seltsi Aast. **49** 1956 : 207–218 4 figs. [German summary pp. 22–23.]

Ling, H. & Paaver, K. [List of mammals of Estonia.] Abiks Loodus., Tartu No. 7 1952 : 1–18. [In Estonian.]

Ling, H. *see* Paaver.

Linsdale, J. M. Ecological niches for warm-blooded vertebrate animals. Wasmann J. Biol. **15** : 107–122.

Lipton, S. *see* Ashton.

Lochte, Th. Die Haare, Borsten und Stacheln des Stachelschweines (*Hystrix hirsutirostris*). Zool. Gart. Lpz. **23** : 145–162 7 figs.

Lockie, J. D. Small rodent prey of the fox and marten. Bull. Mammal Soc. Brit. Isles No. 8 : 14–16. [Private circulation.]

Lockley, R. M. A seal on the doorstep. Ctry. Life, Lond., **122** : 864–865 5 figs.

Loft, J. P. B. *Meles* observed. Hastings Nat. **8** : 200–203.

Łommicki, A. The daily rhythm of activity in the nutria (*Myocastor coypus* Molina). Folia biol., Kraków **5** : 293–306 5 figs. [English summary.]

Lord, R. D. The loss of ear tags in the gray fox and raccoon. J. Mammal. **37** 1956 [1957] : 548.

Louch, C. D. Adrenocortical activity in relation to the density and dynamics of three confined populations of *Microtus pennsylvanicus*. Ecology **37** 1956 : 701–713 5 figs.

Lowrance, E. W. Correlations of certain ponderal and linear skeletal measurements with skull weight and skull length in the opossum. Anat. Rec. **128** : 69–75.

Lukens, P. W. & Davis, W. B. Bats of the Mexican state of Guerrero. J. Mammal. **38** : 1–14.

Lundelius, E. Additions to knowledge of the ranges of Western Australian mammals. W. Aust. Nat. **5** : 173–182 11 figs.

Luppa, H.-W. Über die Colonspirale der Bisamratte (*Ondatra zibethica*). Wiss. Z. M. Luther Univ. Halle-Wittenberg. Math.-Nat. R. **6** : 583–588 5 figs.

Lyman, C. P. *see* Burnett.

Lyne, A. G. (1). Bundles of primary wool follicles in sheep. Nature, Lond. **179** : 825–826 1 fig.

Lyne, A. G. (2). The development and replacement of pelage hairs in the bandicoot *Perameles nasuta* Geoffroy (Marsupialia : Peramelidae). Aust. J. biol. Sci. **10** : 197–216 5 pls. 7 figs.

Lyne, A. G. (3). The development of the epidermis and hair canals in the Merino sheep foetus. Aust. J. biol. Sci. **10** : 390–397 2 pls. 2 figs.

Lysaght, A. Captain Cook's kangaroo. New Scientist, Lond. No. 17 : 17–19 3 figs.

Maass, H. *see* Künkel.

McArthur, A. T. G. The ability of cows and calves to digest grass. N.Z. J. Sci. Tech. **38A** : 696–699.

MacArthur, W. P. The occurrence of the rat in early Europe. Trans. R. Soc. trop. Med. Hyg. **51** : 91–92.

McCabe, R. A. Observations on the disappearance of shed caribou antlers. J. Mammal. **38** : 275–277.

McCracken, H. The beast that walks like man. The story of the Grizzly Bear. London (Oldbourne Press) pp. 224 14 pls.

McCrae, J. D. Experimental breeding (genetics of the feline). Caribou, Maine (Caribou Publ. Co.) 1955 : 1–131 figs.

McCullough, R. A. Possible occurrence of identical twins in the white tail deer. J. Mammal. **38** : 421–422.

McDonald, D. A. *see* Harkness.

MacDonald, J. R. New records of Leptochoerids from the late Oligocene and early Miocene of South Dakota. J. Paleont. **31** : 673.

Macdonald, J. R. & Schultz, C. B. *Arretotherium fricki*, a new Miocene Anthracothere from Nebraska. Bull. Univ. Neb. St. Mus. **4** 1956 : 51–58 3 figs.

McEwen, E. H. & Scott, A. Pigmented areas in the uterus of the Arctic Fox *Alopex lagopus innuitus* Merriam. Proc. zool. Soc. Lond. **128** : 347–348 1 pl.

McEwen, L. C. & others. Nutrient requirements of the white-tailed deer. Trans. N. Amer. Wildl. Conf. **22** : 119–132 4 figs.

MacInnes, D. G. A New Miocene Rodent from East Africa. Fossil Mammals of Africa No. 12 : 1–35 1 pl. 16 figs.

MacLeod, C. F. *see* Beer.

McNally, J. A field survey of a koala population. Proc. R. Zool. Soc. N.S.W. 1955–56 (1957) : 18–27 3 pls.

MacNeil, M. Two different rare events occurring simultaneously in the house mouse. Heredity **11** : 261–264.

Magarey, F. R. & Stehbens, W. E. The blood pressure of sheep. Aust. J. exp. Biol. Med. Sci. **35** : 347–351 4 figs.

Main, A. R. *see* Barker.

[**Maiorov, F. P. & Firsov, L. A.**] [Experiments on the right hand orientation in Chimpanzee.] C.R. Acad. Sci. URSS **109** 1956 : 1065–1068 3 figs. [In Russian.]

Major, M. H. *see* Russell.

Makepeace, L. I. Rabbits, a subject bibliography. Spec. Biblio. No. 3, Bibliographical Center for Research, Rocky Mt. Region (Denver) 1956 : xii + 81. [N.V.]

Malaga Alba, A. & Villa, R., B. Algunas notas acerca de la distribución de los murciélagos de América del Norte relacionados con el problema de la rabia. An. Inst. Biol. Univ. Mex. **27** : 529–569 8 figs. 10 maps.

Mammal Society of the British Isles. Reports of ringing and returns of grey seals: No. 1 September 1954–August 1956. Proc. zool. Soc. Lond. **128** : 594–596.

Manier, J.-F. *see* Tuzet.

Mankins, J. V. & Baker, G. A. Factor analysis of growth of California mule deer, *Odocoileus hemionus californica*. Growth **20** 1956 : 179–186.

Mann. G. (1). *Oncifelis geoffroyi* en Chile. Invest. zool. chil., **3** : 139–140.

Mann, G. (2). Efecto del frio en Mamiferos amazónicos. Invest. zool. chil., **3** : 155.

Mann, P. M. & Stinson, R. H. Activity of the Short-Tailed Shrew. Canad. J. Zool. **35** : 171–178 3 figs.

Manville, R. H. (1). Longevity records of captive mammals. J. Mammal. **38** : 279–280.

Manville, R. H. (2). Roe deer in New York. J. Mammal. **38** : 422.

Manzy, S. F. On the adaptive reconstruction of the mammalian carpus in the evolution. Zool. Zh. **36** : 139–150 3 figs. [Russian with English summary.]

March, E. W. Gorillas of Eastern Nigeria. Oryx **4** : 30–34 map.

Marelli, C. A. Las grandes especies de mamiferos australes llamados Notoungulados "*Gallardodon inexcessus*," nuevo genero y nueva especie de ungulado fosil de la Argentina. An. Mus. Nahuel Huapi, Buenos Aires, **3** 1953 : 149–153 figs. [N.V.]

[**Marin, S. N.**] [Colony of American beavers *Castor canadensis* in the USSR.] Zool. Zh. **35** 1956 : 1064–1071. [English summary.]

Markee, J. E. *see* Becker.

Markov, G. Nasekomoyadnite bozanitzi v B'lghariya. [Insectivorous mammals of Bulgaria]. Fauna na B'lghariya No. 3, Sofia (Zool. Inst. Bulgar. Acad. Sci.) pp. 288, 5 pls. col. 105 figs.

Marquardt, H. & Glass, E. Die Chromosomenzahlen in den Leberzellen von Ratten verschiedenen Alters. Chromosoma **8** : 617–636 2 figs.

Marr, J. Further comments on the occurrence of *Euphausia superba* in a humpback whale caught off Southern Queensland. Norsk Hvalfangsttid. **46** : 181–182.

Marsden, B. The study of the fossil fauna at the entrance to the Grotte de l'Ossuaire, Belgium. Cave Science **4** : 164–203 figs.

Marshall, J. T., Jr. Atolls visited during the first year of the Pacific Islands rat ecology project. Atoll res. Bull. No. 56 : 1–11.

[**Martzinkevich, L. D.**] [Development and age variations in the elastic stroma of the skin in mammals.] C.R. Acad. Sci. URSS **111** 1956 : 1105–1108. [In Russian.]

Maskar, U. Über den Zwerchfellknochen des Kamels. Acta Anat. **30** : 461–471 13 figs.

Mason, R. J. *see* Robinson.

Matheson, C. Potential longevity in some mammals. J. Mammal. **38** : 280.

Matsui, M. *see* Minato.

Matter, H. Die formale Genese einer vererbten Wirbelsäulenmissbildung am Beispiel der Mutante crooked-tail der Maus. Rev. suisse Zool. **64** : 1–38 20 figs.

Matthes, H. W. Die Säugetiere aus der mitteleozänen Braunkohle des Geiseltales. Z. Saugetierk, **22** : 183–192 5 figs.

Matthews, L. H. Dr. J. E. Hamilton, I.S.O. Nature, Lond. **180** : 68.

Matthey, R. (1). Cytologie et taxonomie du genre *Meriones*, Illiger (Rodentia-Muridae-Gerbillinae). Säugetierk. Mitt. **5** : 145–150 11 figs.

Matthey, R. (2). Cytologie comparée, systématique et phylogénie des Microtinae (Rodentia-Muridae). Rev. suisse Zool. **64** : 39–71 49 figs.

Matthey, R. (3). Les bases cytologiques de l'hérédité "relativement" liée au sexe chez les mammifères. Experientia **13** : 341–346 9 figs.

Mayer, W. V. A method for determining the activity of burrowing mammals. J. Mammal. **38** : 531.

Mehl, S. Zur Differentialdiagnose des Schadbildes, zum Biotop und zur Bekämpfung der Erdmaus (*Microtus agrestis* L.). Mitt. biol. Bundesanst. No. 83 1955 : 105–108.

Meier, M. N. On the age variability in *Citellus pygmaeus* Pall. Zool. Zh. **36** : 1393–1402 8 figs. [Russian with English summary.]

Meléndez, B. Sobre el significado del *Oreopithecus*. Bol. Soc. esp. Hist. nat. Secc. Geol. **54** : 141–145 1 fig.

Mendez, A. J. L. *see* Mondolfi.

Menon, M. G. Hairless lion cubs in the Trichur zoo. J. Bombay nat. Hist. Soc. **54** : 450–451 1 pl.

Menzies, G. C. *see* Eads.

Menzies, J. I. Gene-controlled sterility in the African mouse (*Mastomys*). Nature, Lond. **179** : 1142.

Meschkat, A. Bei den Pelzrobben von Cape Cross. Kosmos, Stuttgart **52** 1956 : 461–467 8 figs.

Metzger, B. Partial albinism in *Myotis sodalis*. J. Mammal. **37** 1956 [1957] : 546.

Meyer, G. *see* Salles.

Meyer, U. Zur Okologie der Haselmaus (*Muscardinus avellanarius* [Linné, 1758] in Solling. Beitr. Naturk. niedersachs. **10** : 14–18 map.

Meyer-Holzapfel, M. (1). Über die Bereitschaft zu Spiel- und Instinkthandlungen. Z. Tierpsychol. **13** 1956 : 442–462.

Meyer - Holzapfel, M. (2). Das Verhalten der Bären (Ursidae). Handb. Zool., Berl. **8** Lfg. 8 Teil 10 (17) : 1–28 16 figs.

Meyer-Oehme, D. Dressurversuche an Eichhörnchen zur Frage ihres Helligkeits- und Farbensehens. Z. Tierpsychol. **14** : 473–509 20 figs.

Michel, G. Beitrag zur Anatomie und Histologie der Speicheldrüsen und einiger Sonderbildungen an Kopf und Hals des Syrischen Goldhamsters (*Mesocricetus auratus*). Wiss. Z. K.-Marx Univ. Math. Nat. R. **6** : 63–72 4 figs.

Michels, K. M. Response latency as a function of the amount of reinforcement. Brit. J. Anim. Behav. **5** : 50–52 3 figs.

[**Migulin, O. O.**] [Zoogeographical region of Ukraine on the grounds of the mammals distribution.] Trav. Mus. Zool. Acad. Sci. Ukr. No, 27, 1956 : 14–37. [In Ukrainian with Russian summary.]

[**Mikhalap, O. N.**] [The Rodents of Polesian lowlands.] Izv. Akad. Nauk Belorus. SSR biol. No. 3, 1956 : 95–111 No. 4, 1956 : 89–102. [In Belorussian.]

Miles, A. E. W. *see* Colyer.

Miles, M. I., Kinney, A. R. & Stark, H. E. Flea–host relationships of associated *Rattus* and native wild rodents in the San Francisco Bay area of California, with special reference to plague. Amer. J. trop. Med. Hyg. **6** : 752–760.

Miles, M. I. *see* Kinney.

Miller, L. S. Tracing vole movements by radioactive excretory products. Ecology **38** : 132–136 2 figs.

Milton, O. (1). The last stronghold of the mountain gorilla in East Africa. Anim. Kingd. **60** : 58–61 figs.

Milton, O. (2). The Gerenuk. Anim. Kingd. **60** : 166–168 3 figs.

Minato, M. Matsui, M. & Ishii, J. On the stratigraphical position of the *Desmostylus* tooth found in Tokachi Province, Hokkaido. J. geol. Soc. Japan, **63** : 308–316. [English summary.]

Mislin, H. & Helfer, H. Erregungsleitung in der Wand der Flughautvenen (Chiroptera-Dreivenpräparat). Rev. suisse Zool. **64** : 311–316 3 figs.

Misonne, X. (1). Mammifères de la Turquie sud-orientale et du nord de la Syrie. Mammalia, Paris **21** : 53–68.

Misonne, X. (2). Mammifères Oligocenes de Hoogbutsel et de Hoeleden. I. Rongeurs et Ongulés. Bull. Inst. roy. Sci. nat. Belg. **33** No. 51 : 1–16 2 pls.

Mitchell, J. Wild goats in Wales and on Jura. Ctry. Life, Lond. **122** : 886.

[**Modin, G. V.**] **(1).** [Observations on hare in the sheltering forest belts.] Trav. Mus. zool. Acad. Sci. Ukr. No. 27 1956 : 44–51. [In Ukrainian, Russian summary.]

[**Modin, G. V.**] **(2).** [Note on *Erinaceus auritus* and *Sicista betulina* in Streletz Steppe.] Trav. Mus. zool. Acad. Sci. Ukr. No. 27 1956 : 154–159 1 fig. [In Ukrainian, Russian summary.]

Mohr, C. O. *see* Hoffmeister.

Mohr, E. (1). Braunbären. Kosmos, Stuttgart **49** 1953 : 443–448 17 figs.

Mohr, E. (2). Die Klappmütze. Kosmos, Stuttgart **51** 1955 : 546–551 9 figs.

Mohr, E. (3). Sirenen oder Seekühe. Wittenberg-Lutherstadt (Die neue Brehm-Bücherei, No. 197) pp. 61 70 figs.

Mohr, E. (4.) Das Horn des indischen *Rhinoceros unicornis*. Zool. Gart., Lpz. **23** : 37–45 8 figs.

Mohr, E. (5). Eintragung der Wisent-Nachzucht des Tierparks München-Hellabrunn. Zool. Gart., Lpz. **23** : 237–246 9 figs.

Mohr, E. (6). Der Schwanz der Haselmäuse. Zool. Anz. **158** : 285–288 4 figs.

Mohr, E. (7). Elefantenrobben. Kosmos, Stuttgart **53** : 398–405 16 figs.

Möhres, F. P. & Kulzer, E. Megaderma—ein konvergenter Zwischentyp der Ultraschallpeilung bei Fledermäusen. Naturwissenschaften **44** : 21–22 1 fig.

Moisan, G. Le caribou de Gaspé. III. Analyse de la population et plan d'aménagement. Nat. canad. **84** : 5–27 2 pls.

Mondolfi, E. & Mendez, A., J. L. Un nuevo conejo de monte de Venezuela. Mem. Soc. Cienc. nat. La Salle **17** : 17–26 4 figs. [English summary.]

Monson, M. *see* Irving.

Montagu, I. Colour-film shots of the wild camel. Proc. zool. Soc. Lond. **129** : 592–595, 1 pl.

Moog, G. Geburt und Aufzucht einer Gelbgrünen Meerkatze *Cercopithecus callitrichus* H. Geoffr. Zool. Gart., Lpz. **23** : 220–223.

Moore, J. C. (1). The natural history of the Fox Squirrel, *Sciurus niger shermani*. Bull. Amer. Mus. Nat. Hist. **113** : 1–71 3 pls. 7 figs.

Moore, J. C. (2). Newborn young of a captive manatee. J. Mammal. **38** : 137–138.

Moore, J. C. & Wood. F. G. Differences between the beaked whales *Mesoplodon mirus* and *Mesoplodon gervaisi*. Amer. Mus. Novit. No. 1831 : 1–25 5 figs.

Moore, K. L., Graham, M. A. & Barr, M. L. The sex chromatin of the bovine freemartin. J. exp. Zool. **135** : 101–121 2 pls.

Moore, M. L. A study of hybridization in hamsters. J. Tenn. Acad. Sci. **32** : 155–157.

Morales-Agacino, E. *see* Dorst.

Morgane, P. J. & Kosman, A. J. Alterations in feline behaviour following bilateral amygdalectomy. Nature, Lond. **180** : 598–600 2 figs.

[**Morgilevskaya, I. E.**] [Morphological description of four populations of wood mouse in Georgia.] Trud. Inst. Zool. Tiflis **13** 1954 : 71–79. [In Russian.]

Morris, B. Some histochemical observations on the endometrium and the yolk-sac placenta of *Erinaceus europaea*. J. Embryol. exp. Morph. **5** : 184–200 3 pl.

Morris, R. C. Tusks of Indian elephants. J. Bombay nat. Hist. Soc. **54** : 460.

Morrison, P. R. Observations on body temperature in a hedgehog. J. Mammal. **38** : 254–255.

Morrison, P. R., Pierce, M. & Ryser, F. A. Food consumption and body weight in the masked and short-tail shrews. Amer. midl. Nat. **57** : 493–501 3 figs.

Morrison, P. R. & Tietz, W. J. Cooling and thermal conductivity in three small Alaskan mammals. J. Mammal. **38** : 78–86 1 fig.

Morrison-Scott, T. C. S. Proposed use of the Plenary Powers to validate the family-group names "Muntiacinae" Pocock, 1923, and "Odobenidae" (correction of "Odobaenidae") Allen (J. A.), 1880, as the family-group names for the genera containing the barking deer and the walrus respectively (Class Mammalia). Bull. zool. Nom. **13** : 76–79.

Morton, W. R. M. Placentation in the spotted hyena, (*Crocuta crocuta* Erxleben). J. Anat. Lond. **91** : 374–382 2 pls. 1 fig.

Moss, M. L. Experimental alteration of sutural area morphology. Anat. Rec. **127** : 569–589 16 figs.

Moss, M. L. & Baer, M. J. The differential growth of the rat skull. Growth **20** 1956 : 107–120 10 figs.

Mosse, A. H. The lion of the Gir. J. Bombay nat. Hist. Soc. **54** : 568–576.

Mossman, H. W. The fetal membranes of the aard vark. Mitt. naturf. Ges. Bern N.F. **14** : 119–128 4 pls. 2 figs.

Mostachfi, P. *see* Petter.

Mottl, S. Nahrung des Rehwilds (*Capreolus capreolus capreolus* L.). Biológica, Bratislava **12** : 29–43. [German summary.]

Moulton, D. G. *see* Ashton.

Moussa, T. A. & Khattab, F. I. Studies on the structure and function of peptic cells. Cellule **58** : 273–286, 2 pls.

Mueller, H. C. & Emlen, J. T., Jr. Homing in bats. Science **126** : 307–308.

Müller-Using, D. (1). Weitere Nachkriegswölfe in Niedersachsen. Kosmos, Stuttgart **48** 1952 : 493–495 5 figs.

Müller-Using, D. (2). Igel (*Erinaceus europaeus* L.) im Mittwinter. Säugetierk. Mitt. **5** : 27–28.

Müller-Using, D. (3). Eine wenig bekannte Murmeltier-kolonie in den Bayerischen Alpen. Z. Säugetierk. **21** 1956 [1957] : 197.

Mulligan, J. H. The innervation of the ligaments attached to the bodies of the vertebrae. J. Anat. Lond., **91** : 455–465 2 pls.

Mumford, R. E. *Myotis occultus* and *Myotis yumanensis* breeding in New Mexico. J. Mammal. **38** : 260.

Mumford, R. E. *see* Phillips.

Murie, O. F. (1). The grizzly bear and the wilderness. Anim. Kingd. **60** : 68–73 7 figs.

Murie, O. F. (2). Wolf. Audubon Mag. **59** : 218–221.

Murray, K. F. (1). Some problems of applied small mammal sampling in western north America. J. Mammal. **38** : 441–451 2 figs.

Murray, K. F. (2). An ecological appraisal of host-ectoparasite relationships in a zone of epizootic plague in Central California. Amer. J. trop. Med. Hyg. **6** : 1068–1086 1 fig.

Murray, K. F. (3). Pleistocene climate and the fauna of Burnet Cave, New Mexico. Ecology **38** : 129–132.

Murray, M. E. W. The tale of a hare. J. Bengal nat. Hist. Soc. **28** 1956 : 161–165.

Musatova, A. S. *see* Abramov.

Musgrove, W. F. & Hoffmeister, D. F. A northwestern record of the hog-nosed skunk, *Conepatus mesoleucus*. J. Mammal. **38** : 414.

Musil, R. (1). Vorläufiger Bericht über einen Balaenopteridenfund aus dem Miocän bei Židlochovice (Mähren). Čas. Moravsk. Mus. **42** : 57–64. [German summary.]

Musil, R. (2). Osteologické Nálezy ze Štěrkovny Pod Stránskon skálou. Anthropozoikum **6** : 55–70 4 pls. [Czech with German summary.]

Muybridge, E. Animals in motion. Edited by L. S. Brown. New York (Dover Publ. Inc.) pp. 74 183 pls. text illust.

Nachtsheim, H. Mutation und Phänokopie bei Säugetier und Mensch. (Ihre theoretische und praktische Bedeuting für Genetik und Eugenik.) Experientia **13** : 57–68 13 figs.

Narskaya, E. V. *see* Karaseva.

Nath, V. Animal gametes (Part I–V). Res. Bull. Panjab Univ. No. 95–99 : 1–207 112 figs.

[**Naumov, N. P. & Siroyechkovsky, E. E.**] [On the dependence of the burrow distribution of *Rhombomys opimus* upon the sand relief.] Zool. Zh. **35** 1956 : 1713–1722 6 figs. [English summary.]

Neal, E. G. The reproductive cycle in the badger and associated behaviour. Proc. zool. Soc. Lond. **128** : 147–148.

Neal, B. J. & Kirkpatrick, R. D. Anomalous canine tooth development in an Arizona peccary. J. Mammal. **38** : 420 1 pl.

Negi, P. S. *see* Krishnaswami.

Neill, W. T. *see* Allen.

Nelson, J. N. Bear cub taken by an eagle. Victoria Nat. **14** : 62–63.

Nelson, R. Opossums—a nationa menace. For. & Bird No. 124 : 4–5 1 fig.

Nemoto, T. Foods of baleen whales in the northern Pacific. Sci. Rep. Whales Res. Inst., Tokyo, No. 12 : 33–89 26 figs.

[**Nesturkh, M. F.**]. [The fossil apes and prehistoric man.] Priroda No. 1 : 32–42 figs. [In Russian.]

Neuhaus, W. Hohes Alter einer Waldmaus, *Apodemus sylvaticus* (Linné, 1758). Säugetierk. Mitt. **5** : 171–172.

New, J. G. *see* Barbehenn.

Newby, F. E. *see* Hawley.

Nichols, D. G. *see* Easter.

Nicholson, W. R. & Davis, D. E. The duration of life of muskrat houses. Ecology **38** : 161–163 1 fig.

Nichter, R. The effect of variation in humidity and water intake on activity of *Dipodomys*. J. Mammal. **38** : 502–512.

Niethammer, J. Insektenfresser und Nager Spaniens. Bonn. zool. Beitr. **7** 1956 [1957] : 249–295 5 figs.

Nieuwenhoven, P. J. van (1). Ecological observations in a hibernation-quarter of cave-dwelling bats in South-Limburg. Publ. natuurh. Genoot. Limburg. **9** 1956 (1957) : 1–55 33 figs.

Nieuwenhoven, P. J. van (2). Vleermuizen als de oorzaak van de verwering van mergelgesteente. Natuurh. Maandbl. **46** : 6–7 1 fig.

Nieuwenhoven, P. J. van *see* Punt.

[**Nikiforov, L. P.**]. [An experiment in estimating the influence of the Maltsev system of soil cultivation on harmful rodents.] Bull. Soc. Nat. Moscow biol. **62** (6) : 19–23. [In Russian with English summary.]

Nishiwaki, M. (1). Age characteristics of ear plugs of whales. Sci. Rep. Whales Res. Inst., Tokyo, No. 12 : 23–32 8 figs.

Nishiwaki, M. (2). Very small embryo of cetacea. Sci. Rep. Whales Res. Inst., Tokyo, No. 12 : 191–192 1 pl.

Nishiwaki, M. (3). One-eyed monster of fin whale. Sci. Rep. Whales Res. Inst., Tokyo, No. 12 : 193–195 5 figs.

Njaa, L. R., Utne, F. & Braekkan, O. R. Effect of relative humidity on rat breeding and ringtail. Nature, Lond. **180** : 290–291 1 fig.

Norris, C. B. The porpoise with a purpose. Nat. Hist. N.Y. **66** : 38–39 1 fig.

Norris, C. E. Note on purple-faced leaf monkeys. Loris, **7** 1955 : 179–180.

Nouvel, J., Bullier, P. & Rinjard, J. Rapport sur la mortalité et la natalité enregistrées au Parc Zoologique pendant l'année 1956. Bull. Mus. Hist. nat. Paris (2) **29** : 297–309.

Novakowski, N. S. Additional records of bats in Saskatchewan. Canad. Fld. Nat. **70** : 142.

[**Novikov, K. L.**] [Certain data on the factors affecting the reproduction of *Ondatra zibethica* in the Amu-Darya delta.] Zool. Zh. **36** : 1902–1903. [English summary.]

Nyholm, E. S. Über den Tagesrhythmus der Nahrungsjagdzeit bei der Bartfledermaus, *Myotis mystacinus* Kuhl., während des Sommers. Arch. Soc. zool. bot. fenn. Vanamo **12** : 53–58 3 figs.

Oakberg, E. F. (1). Duration of spermatogenesis in the mouse. Nature, Lond. **180** : 1137–1138.

Oakberg, E. F. (2). Duration of spermatogenesis in the mouse. Nature, Lond. **180** : 1497.

Oakley, K. Dating fossil men. Mem. Manchr. lit. phil. Soc. **98** : 75–94 13 figs.

Obergfell, F. Vergleichende untersuchungen an dentitionen und dentale Altburdigaler Cerviden von Wintershof-West in Bayern und Rezenter Cerviden (eine phylogenetische Studie). Palaeontographica **109A** : 71–166 4 pls. 12 figs.

Odum, E. P. *see* Gentry.

Odum, E. P. *see* Schwartz.

Ogawa, T. & Kamiya, T. A case of the cachalot with protruded rudimentary hind limbs. Sci. Rep. Whales Res. Inst., Tokyo, No. 12 : 197–208 6 figs.

Ogilvie, A. G. The initiation of a study of mortality and morbidity in the Farne Islands grey seals nurseries. Trans, nat. Hist. Soc. Northumb. N.S. **12** : 134–136.

[**Ogulchanski, A. Y.**] [Finding of the skeleton of southern elephant on the coast of Azov Sea.] Priroda **8** : 102–104 2 figs. [In Russian.]

Olivereau, M. *see* Lachiver.

Olivier, G. & Fontaine, M. Les os du pied du Semnopithèque. Mammalia, Paris **21** : 142–189 1 pl. 41 figs.

Olivier, G. & Piganiol, G. Le fémur du Semnopithèque. Mammalia. Paris, **21** : 430–451 9 figs.

Olsen, S. J. (1). A new species of *Osteoborus* from the Bone Valley Formation of Florida. Sp. pub. Fla. geol. Surv. **2** 1956 : 1–5 1 pl.

Olsen, S. J. (2). The lower dentition of *Mephititaxus ancipidens* from the Florida Miocene. J. Mammal. **38** : 452–454 2 figs.

Olsen, S. J. (3). Leptarctines from the Florida Miocene (Carnivora, Mustelidae). Amer. Mus. Novit. No. 1861 : 1–7 2 figs.

Olszewski, J. *see* Hawkins.

Omura, H. (1). Report on two Right Whales caught off Japan for scientific purposes under Article VIII of the International Convention for the Regulation of Whaling. Norsk Hvalfangsttid. **46** : 374–390 23 figs.

Omura, H. (2). Osteological study of the little piked whale from the coast of Japan. Sci. Rep. Whales Res. Inst., Tokyo, No. 12 : 1–21 8 pls. 10 figs.

Oneto, G. B. P. *see* Zaccheo.

Onodera, S. (1). A new occurrence of *Desmostylus* from Ichinoseki City, Iwate Prefecture. J. geol. Soc. Japan **62** 1956 : 721–722 1 fig.

Onodera, S. (2). A new occurrence of *Desmostylus* from Ichinoseki City, Iwate Prefecture, with reference to the geology of the locality. J. geol. Soc. Japan **63** : 238–253 1 pl. 6 figs. [English summary.]

Orr, R. T. The distribution of *Myotis thysanodes* in California. J. Mammal. **37** 1956 [1957] : 545–546.

Orsini, M. W. The vascular knot of the hamster uterus : The placental arterial supply and its changes during gestation and postpartum involution. J. Morph. **100** : 565–599 5 pl.

Ortmann, R. Über die Musterbildung von Duftdrüsen in der Sohlenhaut der weissen Hausmaus (*Mus musculus alba*). Z. Säugetierk. **21** 1956 [1957] : 138–141 4 figs.

Ottow, B. *see* Lavrov.

Oxnard, C. E. The maxillary nerve in the Ceboidea. Proc. zool. Soc. Lond. **128** : 113–117.

Øynes, P. *see* Jonsgard.

Øynes, P. *see* Ruud.

Ozansoy, F. (1). Positions stratigraphiques des formations continentales du tertiaire de l'Eurasie au point de vue de la chronologie nord-americaine Bull. Min. Res. Expl. Inst. Turkey No. 49 : 11–28 3 figs.

Ozansoy, F. (2). Faunes de mammifères du tertiaire de Turquie et leurs revisions stratigraphiques. Bull. Min. Res. Expl. Inst. Turkey No. 49 : 29–48 2 pls.

Paaver, K. (1). Eesti NSV imetajatefauna kaasaegsest koostisest. Loodus. Seltsi. Juubel. 1853–1953 : Tallinn 1953 : 276–292.

Paaver, K. (2). Von der Übervolkerung in den Populationen waldlebender Mäusearten im Zusammenhang mit der Dynamik ihres Massenwechsels in der Estnischen SSR. Eesti NSV Tead. Akad. Biol. Ser. **1957** : 155–166 2 figs. [German summary.]

Paaver, K. & Ling. H. Juhend Eesti NSV pisiimetagate vaatlusteks. Abiks Loodus., Tartu No. 3 1951 : No. 3 1951 : 1–41.

Paaver, K. *see* Ling.

Packard, R. L. *see* Hall.

Padawer, J. Studies on mammalian mast cells. Trans. N.Y. Acad. Sci. (2) **19** : 690–713 7 figs.

Pagé, E. Body composition and fat deposition in rats acclimated to cold. Rev. canad. Biol. **16** : 269–278.

Page, F. J. T. (Ed.). Field guide to British deer. (Field guide to British mammals No. 1). London (Mammal Soc. Brit. Isles), pp. 80 figs.

Pal, K. Biochemical studies on buffalo-bull semen. Curr. Sci. **26** : 212–213.

Palaus, X. *see* Balcells.

Palmer, H. A. *Ibex iowensis*, first evidence of fossil goat in North America. Proc. Iowa Acad. Sci. **63** 1956 : 450–452 1 fig.

Pang-Chieh, T. Rare catches by Chinese animal collectors. Zoo Life, Lond. **12** : 61–63 4 figs.

Panouse, J. B. Les mammifères du Maroc. Primates, Carnivores, Pinnipèdes, Artiodactyles. Trav. Inst. Sci. Chérifien, zool. No. 5 : 1–206 11 pls. 88 figs.

Panuska, J. A. & Wade, N. J. Field observations on *Tamias striatus* in Wisconsin. J. Mammal. **38** : 192–196.

Paraiso, F. *see* Cadenat.

Parkes, A. S. & others. A discussion on viability of mammalian cells and tissues after freezing. Proc. roy. Soc. **147B** : 424–553 70 figs.

Parmalee, P. W. An analysis of faunal remains found in the Modoc rock shelter, Randolph County, Illinois. Rep. Inv. Ill. St. Mus. No. 4 1956 : 47–53.

Parmalee, P. W. & Hoffmeister, D. F. Archaeozoological evidence of the spotted skunk in Illinois. J. Mammal. **38** : 261.

[**Parovshchikow, V. Y.**] [Notes on the distribution of certain mammals in the Arkhangelsk district.] Zool. Zh. **35** : 1956 : 1738–1742. [English summary.]

Pastea, E. *see* Ghettre.

Patterson, B. Mammalian phylogeny. Baer, J. G. First Symposium on host specificity among parasites of vertebrates. Neuchatel Univ., pp. 15–49 11 figs.

Paulian, P. (1). Note préliminaire sur la systematique de l'Otarie de l'Ile Amsterdam. Mammalia, Paris **21** : 9–14 1 fig.

Paulian, P. (2). Note sur les phoques des Iles Amsterdam et Saint-Paul. Mammalia, Paris **21** : 210–225 2 pls. 2 figs.

Pauly, L. K. & Wolfe, H. R. Serological relationships among members of the Order Carnivora. Zoologica, N.Y. **42** : 159–166.

[**Pavlov, M. P. & Kiris, I. B.**] [Feeding of the fox (*Vulpes vulpes* L.) in the Kuban swamped bottomland inhabited by *Myocastor coypus* Mol.] Zool. Zh. **35** 1956 : 897–907. [English summary.]

Pavoni, N. Geologie der Ziircher Molasse zwischen Albiskamm und Pfannenstiel. Vjschr. naturf. Ges. Zürich **102** : 117–314 12 figs. 5 maps. [Mammals pp. 175–178.]

Paynter, R. A. *see* Burnett and Lyman.

Pearsall, W. H. Report on an ecological survey of the Serengeti National Park, Tanganyika. Oryx **4** : 71–136 7 figs.

Pearson, O. P. Additions to the mammalian fauna of Peru and notes on some other Peruvian mammals. Breviora No. 73 : 1–7.

Pedersen, A. (1). Der Vielfrass—das gefürchtetste Raubtier von Europa. Kosmos, Stuttgart **50** 1954 : 499–502 6 figs.

Pedersen, A. (2). Begegnungen mit Moschusochsen. Kosmos, Stuttgart **52** 1956 : 16–20 7 figs.

Pedersen, A. (3). Der Eisbär, rastlosen Wanderer im Nordpolargebiet. Kosmos, Stuttgart **52** 1956 : 554–559 6 figs.

Pedersen, A. (4). Meister Lampes grönländischer Vetter. Kosmos, Stuttgart **53** : 320–324 7 figs.

Pedersen, A. (5). Der Eisbär. Wittenberg–Lutherstadt (Die neue Brehm-Bücherei no. 201), pp. 64 34 figs. [N.V.]

Pedersen, C. Cycles in Danish vole populations. Dan. Rev. Game Biol. **3** (2) : 1–18 3 figs.

Pehrson, T. Ur manniskans aldre forhistoria. Zool. Revy **1957** (2–3) 46–61 64 10 figs.

Pei, W-C. (1). Giant Ape's Jaw Bone discovered in China. Neues Jb. Geol. Paläont. B **1957** : 404–408 figs.

Pei, W. C. (2). The zoogeographical divisions of Quaternary mammalian faunas in China. Vertebrata Palasiatica **1** : 9–24 map. [In English.]

Pei, W. C. (3). Discovery of *Gigantopithecus* mandibles and other material in Liu-Chang District of Central Kwangsi in South China. Vertebrata Palasiatica **1** : 65–71 3 pls. 2 figs.

Pei, W. C. & Chiu, C.-L. On a collection of mammalian fossils from Liuhsia, Hongchow, Chekiang, China. Vertebrata Palasiatica **1** : 42–46 1 pl.

Pei, W.-C., Woo, J.-K. & Ju-kang, W. New materials of *Gigantopithecus* teeth from South China. Acta palaeont. Sinica **4** 1956 : 477–490 4 pls. 6 figs. [Eng. summary pp. 489–490.]

Pengelley, E. T. & Fisher, K. C. Onset and cessation of hibernation under constant temperature and light in the golden-mantled ground squirrel (*Citellus lateralis*). Nature, Lond. **180** : 1371–1372.

Petersen, B. Über das Verhalten einiger Rinderzwillinge. Verh. dtsch. zool. Ges. **1956** 1957 : 91–95.

Peterson, R. L. Changes in the mammalian fauna of Ontario. Urquhart & others. Changes in the fauna of Ontario. Toronto (Univ. Press) pp. 43–58 10 figs.

Petrides, G. A. Big game densities and range carrying capacities in East Africa. Trans. N. Amer. Wildl. Conf. **21** 1956 : 525–537.

Petrocchi, C. I *Leptobos* di Sahabi. Boll. Soc. geol. ital. **75** 1956: 206–238 7 pls.

Petronijević, Ž. Fossile Rüsseltierreste aus der Umgebung von Kraljevo und ihre stratigraphische Bedeutung. Ann. géol. Pén. balkan, **24** 1956 : 185–198 7 pls. [German summary p. 197.]

[**Petrov, O. V.**] [Vertical distribution of birds and mammals in Western Kungeï-Alatan.] Trud. Leningr. Soc. Nat. **70** 4 1950 : 155–193. [In Russian.]

Petrov, O. V. & Shmatko, G. I. Distribution and population of Muridae in forest-steppe oak stands of economic importance. Zool. Zh. **36** : 762–772. [Russian with English summary.]

Petter, F. (1). Remarques sur la systématique des *Rattus* africains et description d'une forme nouvelle de l'Air. Mammalia, Paris **21** : 125–132 1 pl.

Petter, F. (2). Liste commentée des espéces de Gerbillidés de Palestine. Mammalia, Paris. **21** : 241–257 2 figs.

Petter, F. (3). La reproduction du Fennec. Mammalia, Paris, **21** : 307–309.

Petter, F. & Mostachfi, P. Contribution à l'écologie de l'Ecureuil terrestre à doigts grêles (*Spermophilopsis leptodactylus bactrianus* Scully). Terre et la Vie **104** : 283–296 10 figs.

Petter, F., Seydian, B. & Mostachfi, P. Données nouvelles sur la repartition des gerbillidés et de quelques autres rongeurs en Iran et en Irak. Mammalia, Paris **21** : 111–120 1 fig.

Pettus, D. & Robinson, R. M. Records of the deer mouse on the Gulf coastal plain. J. Mammal. **38** : 416–417.

Petzsch, H. (1). Verzehrt der Feldhase, *Lepus europaeus*, tierische Nahrung?. Säugetierk. Mitt. **5** : 74–75.

Petzsch, H. (2). Ein bemerkenswerter Bastard (♂) aus Hausyak — ♂ × Hausrind — ♀. Säugetierk. Mitt. **5** : 76–77 3 figs.

Petzsch, H. (3). Richtigstellung zur Arbeit "Beobachtungen an winterschlafenden Goldhamstern, Mesocricetus auratus (Waterhouse, 1839)" von A. Fellner. Säugetierk. Mitt. **5** : 126–127.

Petzch, H. (4). Lebender ♀-Bastard aus *Ammotragus lervia* Pall. — ♂ × *Capra hircus* L. — ♀ im Berg-Zoo Halle-S. geboren. Zool. Anz. **159** : 285–290 4 figs.

Peyer, B. Über Zähne von Haramyiden, von Triconodonten und von wahrscheinlich synapsiden Reptilien aus dem Rhät von Hallan Kt. Schaffhansen, Schweiz. Schweiz. palaeont. Abh. **72** 3 1956 : 1–72 12 pls. figs.

Peyre, A. Dimorphisme sexuel de la ceinture pelvienne d'un Mammifère Insectivore, *Galemys pyrenaicus* G. C.R. Acad. Sci. Paris **244** 118–120 figs.

Pfeffer, P. Notes sur le peuplement mammalien des îles de Florès, Komodo et Rintja (petites îles de la Sonde). Mammalia, Paris **21** : 405–419.

Pfeiffer, E. W. (1). The bobcat as a laboratory animal for courses in zoology. J. Mammal. **37** 1956 [1957] : 548–549.

Pfeiffer, E. W. (2). Electrocardiogram of the bobcat. J. Mammal. **37** 1956 [1957] : 549.

Phillips, G. D. *see* Quarterman.

Phillips, R. E. & Mumford, R. E. A record of *Myotis austroriparius* for Kentucky. J. Mammal. **38** : 515.

Phillips, R. S. Notes on a captive short-tailed shrew. J. Mammal. **37** 1956 [1957] : 543.

Piechocki, R. Färbungs-Mutation der Zwergmaus, (*Micromys minutus* Pall.). Z. Säugetierk. **22** : 106.

Pierce, M. *see* Morrison.

Piganiol, G. *see* Olivier.

Pilarski, W. & Roskosz, T. Sacralization of the last lumbal vertebra in female European Bison, *Bison bonasus* L. Folia morph. Warsz. **8** : 109–119 7 figs. [Czech with English summary.]

Pirlot, P. L. (1). Rongeurs nuisibles aux cultures des environs du lac Kivu (Congo Belge). Bull. Agric. Congo Belge **48** : 703–730 7 figs.

Pirlot, P. L. (2). Associations de Rongeurs dans les régions hautes de l'est du Congo belge et du Ruanda-Urundi. Rev. Zool. Bot. afr. **55** : 221–236 2 figs.

Pirlot, P. L. (3). Données complémentaires sur la reproduction de quelques Rongeurs d'Afrique. Rev. Zool. Bot. afr. **56** : 293–300.

Pirlot, P. L. (4). Croissance et maturité sexuelle chez *Mastomys coucha* Smith. Mammalia, Paris **21** : 385–395 7 figs.

Piveteau, J. (1). Les relations paleogeographiques de Madagascar d'après les Vertébres. Mém. Inst. Sci. Madagascar **1D** 1949 : 117–121.

Piveteau, J. (2). L'encéphale de l'*Hadropithecus* lémurien subfossile de Madagascar. Ann. Paléont. **42** 1956 [1957] : 139–150 6 figs.

Piveteau, J. (3). Traite de Paléontologie VII. Primates. Paléontologie Humaine, Paris pp. 670 8 pls. 639 figs.

Pizarro, A., O. Observaciones sobre mutilidad espontanea en el raton (*Mus musculus*), con especial referencia a les mutantes neuromusculares. Biologica, Santiago No. 22 1956 : 39–44.

Podoba, E. G. The length of embryonic development as an index of the animal's constitutional characters. J. gen. Biol., Moscow **17** 1956 : 443–452.

Pohl, L. Reproduction du gorille en captivité. Terre et la Vie **104** : 335–336.

[**Polezhaev, L. V.**] [Bone regeneration in the skull of mammals.] Bull. Acad. Sci. SSSR biol. No. 5 556–571 4 pls. [In Russian.]

Pollard, W. G. An over fed ark. Niger. Fld. **22** : 120–128 1 fig.

Pollock, E. G. *see* Husted.

Polyakov, I. Y. *see* Gladkina.

Polyakov, I. Y. *see* Ivanov

Pomanskaya, L. A. On the method of study of the winter mixed epizootics of tularemia, erisipeloid and listerelloesis on the rodents of muridae-family in stacks. Zool. Zh. **36** : 481–492 3 figs. [English summary.]

Pompeiano, O. *see* Brodal.

Pond, A. W. The legend of the camel. Nat. Hist. N.Y. **66** : 266–271 9 figs.

Poorbaugh, J. *see* Findley.

Poots, L. Über die Überwinterung der Fledermäuse in der Estnischen SSR. Loodus. Seltsi Aast. **49** 1956 : 219–226. [German summary, pp. 24–25.]

Popeskovic, D. *see* Davidovic.

Popescu, A. *see* Barbu.

Poppleton, F. (1). The birth of an elephant. Oryx **4** : 180–181.

Poppleton, F. (2). An elephant birth. Afr. wild Life **11** : 106–108 2 figs.

Porter, A. *see* Hill, W. C. O.

Porter, G. *see* Bloom.

Portmann, A. Besonderheit und Bedeutung der menschlichen Brutpflege. Ciba-Z. No. 129 1952 : 4758–4761 4 figs.

Pospelov, S. M. Birds and mammals in *Piceetum myrtillosum* of different ages. Zool. Zh. **36** : 603–607. [Russian with English summary.]

Poulsen, C. M. Lidt om muldvarpen (*Talpa europaea*, L.). Flora og Fauna **63** : 27–30.

Prag, P. The musk ox in Norway. Field **210** : 530 1 fig.

Prakash, I. Additions to the list of mammals of the Rajasthan desert. J. Bengal nat. Hist. Soc. **28** 1956 : 169–170.

Prakash, I. & Sharma, S. C. Strange behaviour of bats. J. Bombay nat. Hist. Soc. **53** 1956 : 688–689.

Prakash, I. *see* Krishna.

Pranavananda, S. (1). The abominable snowman. J. Bombay nat. Hist. Soc. **54** : 358–364.

Pranavananda, S. (2). Footprints of 'Snowman.' J. Bombay nat. Hist. Soc. **54** : 448–450.

Prasad, M. R. N. Male genital tract of the Indian and Ceylonese palm squirrels and its bearing on the systematics of the Sciuridae. Acta Zool. Stockh. **38** : 1–26 19 figs.

[**Prokofyeva, Z. V.**] [Method of controlling the sylvian mice in the open habitats of the Stavropol area.] Trud. Nauch, Issled. Protiv. Inst. Stavropol **1** 1956 : 392–402. [In Russian.]

Prokopova, S. *see* Pujman.

Pruitt, W. O. (1). A survey of the mammalian family Soricidae (Shrews). Säugetierk. Mitt. **5** : 18–27.

Pruitt, W. O. (2). Tooth reduction in the tundra shrew. J. Mammal. **38** : 121.

Pruitt, W. O. (3). A measure of displacement activity in a lemming (*Lemmus trimucronatus*). Behaviour **10** : 237–239 1 fig.

Prychodko, W. (1). Über die Verkehrsopfer freilebender Tiere auf den Autobahnen im Südosten von Michigan. Säugetierk. Mitt. **5** : 151–156 1 fig.

Prychodko, W. (2). Das Vorkommen von asymetrischer Anordnung der Brustwarzen beim kalifornischen Erdhörnchen, *Citellus beecheyi* (Richardson, 1829). Säugetierk. Mitt. **5** : 168–169 1 fig.

Psenner, H. (1). Neues vom Murmeltier, *Marmota m. marmota* (Linné, 1758). Säugetierk. Mitt. **5** : 4–10 6 figs.

Psenner, H. (2). Zur Frage : Mauswiesel-Zwergwiesel. Säugetierk. Mitt. **5** : 172.

Psenner, H. (3). Die ersten Nachweise des Tiroler Baumschläfers, *Dryomys nitedula intermedius* (Nehring, 1902), für Nordtirol. Säugetierk. Mitt. **5** : 172.

Pucek, Z. (1). Histomorphologische Untersuchungen über die Winterdepression des Schädels bei *Sorex* L. und *Neomys* Kaup. Ann. Univ. M. Curie-Skłodowska **10C** : 399–428 7 pls.

Pucek, M. (2). Die toxische Wirkung der Glandulae submaxillares bei *Neomys fodiens fodiens* Schreb. Bull. Acad. polon. Sci. Sér. Sci. nat. **5** : 301–306.

Pujman, V., Prokopova, S. & Reichlova, R. Blood picture of the dog. Mém. Soc. zool. tchécosl. **20** 1956 : 101–109. [Czech with English summary.]

Punt, A. & Nieuwenhoven, P. J. van. The use of radioactive bands in tracing hibernating bats. Experientia **13** : 51–54 map.

Quarterman, J., Phillips, G. D. & Lampkin, G. H. A difference in the physiology of the large intestine between European and indigenous cattle in the tropics. Nature, Lond. **180**: 552–553.

Quay, W. B. (1). Volumetric and cytologic variation in the pineal body of *Peromyscus leucopus* (Rodentia) with respect to sex, captivity, and daylength. J. Morph. **98** 1956 : 471–491 2 pls.

Quay, W. B. (2). Pancreatic weight and histology in the white whale. J. Mammal. **38** : 185–192 2 pls.

Queneau, P. *see* Hanson.

Quick, H. F. (1). Effects of exploitation on a marten population. J. Wldlf. Mgmt. **20** 1956 : 267–274.

Quick, H. F. (2). Analysis of marten exploitation as criteria of management. Trans. N. Amer. Wildl. Conf. **21** 1956 : 355–364 3 figs.

Quinn, J. H. Pleistocene Equidae of Texas. Rep. Invest. Univ. Tex. Bur. econ. Geol. No. 33 : 1–51 7 pls.

Rabor, D. S. (1). The rat problem on Mindanao Island. Silliman J. **2** 1955 : 13–26 4 pls.

Rabor, D. S. (2). Notes on mammals and birds of the central northern Luzon highlands, Philippines. Part I. Notes on mammals. Silliman J. **2** 1955 : 193–218.

Rageot, R. H. Predation on small mammals in the Dismal Swamp, Virginia. J. Mammal. **38** : 281.

Rahm, U. (1). Notes on pangolins of the Ivory Coast. J. Mammal. **37** 1956 [1957] : 531–537 1 pl. 1 fig.

Rahm, U. (2). Der Baum oder Waldschliefer *Dendrohyrax dorsalis* (Fraser). Zool. Gart., Lpz. **23** : 67–74 4 figs.

[**Rakov, N. V.**] (1). [*Saiga tatarica* in western Kazakhstan.] Trud. Inst. Zool. Alma Ata **6** 1956 : 28–60 3 figs. [In Russian.]

Rakov, N. V. (2). Experiment on the aerovisual census of large mammals in Central Kazakhstan. Zool. Zh. **36** : 1403–1411. [Russian with English summary.]

Rakovec, I. The remnants of the Elk (*Alces alces* L.) in Yugoslavia. Ann. géol. Pén balkan. **24** 1956 : 1–14 1 pl. [English summary p. 11.]

Ramaswami, L. S. The development of the skull in the Slender Loris, *Loris tardigradus lydekkerianus* Cabr. Acta Zool. Stockh. **38** : 27–68 33 figs.

Rasmussen, B. Exploitation and protection of the East Greenland seal herds. Norsk Hvalfangstiid. **46** : 45–59 7 figs.

Ratcliffe, H. L. Adequate diets for captive wild animals. Amer. First Zoo. **9** : 3 pp. 3 figs.

Raths, P. Über die Abhängigkeit der Blutzusammensetzung von der allgemeinen Aktivitätslage beim Hamster. Zool. Anz. **159** : 139–152 3 figs.

Rauch, H.-G. Zum Verhalten von *Meriones tamariscinus* Pall. (1778). Z. Säugetierk. **22** : 218–240 23 figs.

Rauch, H.-G. *see* Herter.

Ray, C. E. Pre-Columbian horses from Yucatan. J. Mammal. **38** : 278.

Reboussin, R. Le raire du cerf. Nature, Paris No. 3271 : 456–458 3 figs.

Reed, E. B. (1). Mammal remains in pellets of Colorado barn owls. J. Mammal. **38** : 135–136.

Reed, E. B. (2). Notes on some birds and mammals of the Colville River, Alaska. Canad. Field Nat. **70** : 130–136 1 fig.

Reese, D. *see* Ashcraft.

Reetz, W. Unterschiedliches visuelles Lernvermögen von Ratten und Mäusen. Z. Tierpsychol. **14** : 347–361 5 figs.

Reeves, H. M. & Williams, R. M. Reproduction, size and mortality in the Rocky Mountain muskrat. J. Mammal. **37** 1956 [1957] : 494–500.

Reichlova, R. *see* Pujman.

Reichstein, H. (1). Zur Dynamik der Sexualproportion bei der Feldmaus, *Microtus arvalis* (Pallas). Z. Säugetierk. **21** 1956 [1957] : 184–191 2 figs.

Reichstein, H. (2). "Schwarz," eine neue Mutation bei *Microtus arvalis* Pall. Z. Säugetierk. **22** : 102–103.

Reichstein, H. (3). Schädelvariabilität europäischer Mauswiesel (*Mustela nivalis* L.) und Hermeline (*Mustela erminea* L.) in Beziehung zu Verbreitung und Geschlecht. Z. Säugetierk. **22** : 151–182 7 figs.

Reichstein, H. (4). Feldmaus, *Microtus arvalis*, mit 13 Embryonen. Säugetierk. Mitt. **5** : 77.

Reid, B. L. & Cleland, K. W. The structure and function of the epididymis. I. The histology of the rat epididymis. Aust. J. Zool. **5** : 223–246 6 pls.

Reig, O. A. (1). Sobre la posicion sistematica de "Zygolestes paranensis" Amegh. y de "Zygolestes entrerrianus" Amegh. con una reconsideracion de la edad y correlacion del "Mesopotamiense." Holmbergia, Rev. Centr. Estud. Cienc. Nat. Buenos Aires, **5** 1956 : 209–226 3 figs.

Reig, O. A. (2). Un mustelido del genero *Galictis* del Eocuartario de la provincia de Buenos Aires. Ameghiniana, **1** (1–2) : 33–47. [N.V.]

Reinert, J. Akustische Dressurversuche an einem Indischen Elefanten. Z. Tierpsychol. **14** : 100–126 3 figs.

Reintjes, M. Untersuchungen über die Silberung des Hauskaninchens. Biol. Zbl. **76** : 414–428 14 figs.

Reinwaldt, E. (1). Eine Falle mit Kappe zum Fangen von Kleinsäugern. Säugetierk. Mitt. **5** : 28 1 fig.

Reinwaldt, E. (2). Studien am Schädel der schwedischen Waldmäuse, *Apodemus sylvaticus* (Linné, 1758) und *Ap. flavicollis* (Melchior, 1834). Säugetierk. Mitt. **5** : 100–103 2 figs.

Reinwaldt, E. (3). Verwendung von Rotan beim Anfertigen von Kleinsäugerbälgen. Säugetierk. Mitt. **5** : 169.

Rémillard, G.-L. Histochemical and microchemical observations on the lipids of the interscapular brown fat of the female vespertilionid bat. *Myotis lucifugus lucifugus*. Trans. N.Y. Acad. Sci. (2) **19** : 215–216.

Remington, J. D. *see* Yeager, L. E.

Rempe, U. Beobachtungen über Brunst, Paarung, Tragzeit, Geburt and Kreuzungen bei Mitgliedern der Untergattung *Putorius*. Säugetierk. Mitt. **5** : 111–113.

Rensch, B. (1). Ästhetische Faktoren bei Farb- und Formbevorzugungen von Affen. Z. Tierpsychol. **14** : 71–99 9 figs. [English summary.]

Rensch, B. (2). The intelligence of elephants. Sci. Amer. **196** : 44–49 figs.

Reuben, D. E. The abominable snowman. J. Bombay nat. Hist. Soc. **54** : 762–763.

[**Reymers, N. F.**] Le rôle du nucifrage et des rongeurs de la famille des muridés dans les bois de cédre des regions méridionales baicaliennes. Bull. Soc. Nat. Moscow. biol. **61** 2 1956 : 35–39. [French resumé.]

Reynolds, H. G. Porcupine behavior in the desert-shrub type of Arizona. J. Mammal. **38** : 418–419.

Reysenbach de Haan, F. W. De gehoorsin van Cetacea. Vakbl. Biol. **37** : 117–127.

Richter, H. Die Alpenfledermaus bisher nicht für Deutschland nachgewiesen. Z. Säugetierk. **21** 1956 [1957]: 195.

Rice, D. W. (1). Life history and ecology of *Myotis austroriparius* in Florida. J. Mammal. **38** : 15–32 3 figs.

Rice, D. W. (2). Sexual behavior of tassel-eared squirrels. J. Mammal. **38** : 129.

Rickenmann, E. Beiträge zur vergleichenden Anatomie insbesondere des Beckens bei Catarrhinen. Acta Anat. Suppl. **27** : 1–118 55 figs.

Ride, W. D. L. (1). *Protemnodon parma* (Waterhouse) and the classification of related wallabies (*Protemnodon, Thylogale,* and *Setonyx*). Proc. zool. Soc. Lond. **128** : 327–346 1 pl. 4 figs.

Ride, W. D. L. (2). The affinities of *Plagiaulax* (Multituberculata). Proc. zool. Soc. Lond. **128** : 397–402 1 fig.

Riedel, A. Contributo alla conoscenza degli animali domestici delle torbierre del Garda. Mem. Mus. Civ. Stor. nat. Verona **5** 1955–1956 : 61–88 7 pls.

Riedesel, M. L. Serum magnesium levels in mammalian hibernation. Trans. Kansas Acad. Sci. **60** : 99–141 6 figs.

Riedesel, M. L. & Folk, G. E. Serum magnesium changes in cold-exposed mammals. J. Mammal. **38** : 423–424.

Riga, I. *see* Ghettie.

Riney, T. The use of faeces counts in studies of several free-ranging mammals in New Zealand. N.Z.J. Sci. Tech. **38B** : 507–532.

Rinjard, J. *see* Nouvel.

Risto, G. (1). Neue Fundstellen der Pikermifauna in Mazedonien. Acta Mus. Maced. Sci. nat. **4** 1956 : 69–96 9 figs.

Risto, G. (2). Fund der Molaren eines fossilien Elefanten (*Mammonteus primigenius* Blum.) im Dorfe Orešane im becken Skopje. Acta Mus. Maced. Sci. nat. **5** : 61–82 4 figs.

Ritcey, R. W. *see* Edwards.

Robinette, W. L. *see* Gashwiler.

Robinson, A. The ghost bat in the North-West. W. Aust. Nat. **5** : 232.

Robinson, J. T. The dentition of the Australopithecinae. Transvaal Mus. Mem. No. 9 1956 : vi + 180.

Robinson, J. T. & Mason, R. J. Occurrence of stone artefacts with *Australopithecus* at Sterkfontein. Nature, Lond. **180** : 521–524 4 figs.

Robinson, P. The species of *Notharctus* from the Middle Eocene. Postilla No. 28 : 1–27 2 pls. 5 figs.

Robinson, R. Partial albinism in the Syrian hamster. Nature, Lond. **180** : 443–444.

Robinson, R. M. *see* Peltus.

Rodaniche, E. de. Survey of primates captured in Panama, R.P. during the years 1952–1956 for protective antibodies against yellow fever. Amer. J. trop. Med. Hyg. **6** : 835–839.

Rödle, J. Kamerajagd auf Murmeltiere. Kosmos, Stuttgart **50** 1954 : 397–401 7 figs.

[**Romanov, A. N.**] [Automatic banding of wild animals and the outlooks of its application.] Zool. Zh. **35** 1956 : 1902–1905 3 figs.

[**Romanov, G. V.**] [The influence of the flood on small Muridae-rodents in the Volga delta.] Zool. Zh. **36** : 1874–1881. [English summary.]

Rosasco, M. E. Seasonal abundance of the tick *Dermacentor parumapertus* on the black-tailed jack rabbit, with notes on other ectoparasites. J. Mammal. **38** : 485–490 2 figs.

Rosen, B. v. Hundens ursprung. Zool. Revy **18** 1956 : 14–23 28 5 figs.

Rosenbauer, K. A. Kurze Mitteilung zur Anatomie des indischen Elefanten. Anat. Anz. **104** : 248–251 2 figs.

Rosenmann, M. *see* Capurro.

Roskosz, T. *see* Pilerski.

Roso, V. P. *see* Page.

Roth, C. E. (1). Notes on maternal care in *Myotis lucifugus.* J. Mammal. **38** : 122–123.

Roth, C. E. (2). Distribution of the porcupine in Connecticut. J. Mammal. **38** : 133–135 1 fig.

Roth-Kolar, H. Beiträge zu einem Aktionssystem des Aguti (*Dasyprocta aguti aguti* L.). Z. Tierpsychol. **14** : 362–375 15 figs.

Rothschild, M. & Lane, C. Note on change of pelage in the stoat (*Mustela erminea* L.). Proc. zool. Soc. Lond. **128**: 602.

Rotschild, E. V. & Krivosheyev, V. G. The role of twigs in the winter feeding of the voles *Clethrionomys glareolus* Schreb. Zool. Zh. **36** : 1385–1392 5 figs. [Russian with English summary.]

Roux, F. Sur la présence de phoques à l'ile d'Ouessant. Penn-ar-Bed **4** : 13–18 1 fig.

Rowe, F. P. *see* Crowcroft.

Rowett, H. G. Q. The rat as a small mammal. London (Murray) : 94 pp. 107 figs.

Rozhdestvensky, A. K. A short conclusion on the study of Mongolian fossil vertebrates. Vertebrata Palasiatica **1** : 169–185. [English summary p. 182.]

Rózycki, S. Z. Peryglacjalne deformacje Kosci dtugich niedźwedzia. Biuletyn Peryglaacjalny No. 5 : 105–108 2 figs. [French summary, p. 237.]

Rudd, R. L. *see* Johnston.

Rue, L. L. They glide by night. Nat. Hist., N.Y. **66** : 308–313 10 figs.

Ruibal, R. The evolution of the scrotum. Evolution **11** : 376–378.

Rukovsky, N. N. Data on the feeding habits of the raccoon. Zool. Zh. **36** : 280–288. [Russian with English summary.]

Rusconi, C. Evolucion de la trompa en las macrauquenias. Rev. Mus. Hist. nat. Mendoza **10** : 111–118 4 figs.

Russell, L. B. & Major, M. H. Radiation-induced presumed somatic mutations in the house mouse. Genetics **42** : 161–175 2 figs.

Russell, R. J. A new species of pocket gopher (genus *Pappogeomys*) from Jalisco, México. Publ. Mus. nat. Hist. Univ. Kans, **9** : 357–361.

Russell, R. J. & Alcorn, A. A. *Reithrodontomys burti* in Sinaloa. J. Mammal. **38** : 417–418.

Russell, R. J. *see* Anderson.

Rutherford, W. H. *see* Yeager.

Ruud, J. T. & Øynes, P. Report on whale marking carried out by Norwegian catchers in the Antarctic season 1955/56. Norsk Hvalfangsttid. **46** : 59–63.

Ruud, J. T. *see* Jonsgard.

Ryser, F. A. *see* Morrison.

Saban, R. (1). Les affinités du genre *Tupaia* Raffles 1821, d'après les caractères morphologiques de la tête osseuse. (A suivre). Ann. Paléont. **42** 1956 [1957] : 169–224 26 figs.

Saban, R. (2). Les affinités du genre *Tupaia* Raffles 1821, d'après les caractères morphologiques de la tête osseuse (Suite et fin). Ann. Paléont. Paris **43** : 1–100 15 figs.

Sadleir, R. M. *see* Barker.

Saint Girons, M.-C. (1). Contribution à la connaissance de la pachyure étrusque en captivité. Mammalia, Paris **21** : 69–76.

Saint Girons, M.-C. (2). Les facteurs écologiques du cycle journalier d'activité chez quelques petits mammifères français. Mammalia, Paris **21** : 197–209 3 figs.

Sakhno, I. I. Contribution to the study of the feed's composition of certain Muridae. Zool. Zh. **36** : 1084–1092 3 figs. [Russian with English summary.]

Salles, P. & Meyer, G. Electrocardiographie du Lémurien. Bull. Acad. Malgache N.S. **34** : 67–73.

Samosh, V. M. (1). Effect of environment and function on the structure of the mammalian humeral joint. Rep. Acad. Sci. Ukr. **1957** : 398–401.

Samosh, V. M. (2). The relationship between the thoracic limb function in mammals and the thickness of the articular cartilage. Rep. Acad. Sci. Ukr. **1957** : 612–614 1 fig. [English summary.]

Sanden-Guja, W. von. Wasserspitzmausjahre. Beitr. Naturk. niedersachs. **10** : 73–75 2 figs.

Sanderson, G. C. The status of the raccoon in Iowa from the past twenty years as revealed by fur reports. Proc. Iowa Acad. Sci. **58** 1951 : 527–531 1 fig.

Sanderson, I. T. The Monkey Kingdom : an Introduction to the Primates. London (Hamish Hamilton) pp. 200 76 figs.

Santapan, H. *see* Ali.

Sather, J. H. Skull dimensions of the Great Plains muskrat, *Ondatra zibethicus cinnamominus*. J. Mammal. **37** 1956 [1957] : 501–505.

Savage, R. J. G. The anatomy of *Potamotherium*, an Oligocene lutrine. Proc. zool. Soc. Lond. **129** : 151–244 3 pls. 38 figs.

Sawin, P. B. & Crary, D. D. Morphogenetic studies of the rabbit. XVII. Disproportionate adult size induced by the Da gene. Genetics **42** : 72–91 33 figs.

Sawin, P. B. *see* Crary.

Schaefer, H. Säugetierkundliches aus Workuta, Nordrussland. Säugetierk. Mitt. **5** : 165–168.

Schalk, K. Geologische Untersuchungen im Ries. Das Gebiet des Blattes Bissingen. Geol. bavar. **31** : 1–107 3 pls. figs.

Schantz, V. S. *Lepus californicus melanotis* record from southeastern South Dakota. J. Mammal. **38** : 419.

Scheffer, V. B. Population of the Alaska fur-seal herd. Bull. Mammal Soc. Brit. Isles. No. 8 : 9–10. [Private circulation.]

Schevill, W. E. *see* Worthington.

Scheygrond, A. *see* Ijsseling.

Schilling, E. Angeborene doppelseitige Atrophie des M. biceps beim Schwein. Anat. Anz. **104** : 150–156 7 figs.

Schmidt, F. (1). Pelztierzucht in freier Wildbahn. Kosmos, Stuttgart **50** 1954 : 73–77 4 figs.

Schmidt, F. (2). Mutationszuchten—ein Kapitel aus der modernen Pelztierzucht. Kosmos, Stuttgart **50** 1954 : 550–554 11 fig.

Schmidt-Nielsen, K. Kamellen. Nat. Verd., Kbh. Dec. : 8–15 12 figs.

Schmidt-Nielsen, K. & B., Jarnum, S. A. & Houpt, T. R. Body temperature of the camel and its relation to water economy. Amer. J. Physiol. **188** : 103–112 8 figs.

Schmidt-Nielsen, K. *see* Hansen.

Schmidt-Nielsen, K. *see* Irving.

Schmökel, H. Tiere der Wildbahn auf altorientalischen Siegeln. Zool. Gart., Lpz. **23** : 136–145 11 figs.

Schneider, R. (1). Morphologische Untersuchungen am Gehirn der Chiroptera. Z. Säugetierk. **21** 1956 [1957] : 182–183.

Schneider, R. (2). Metrische Untersuchungen am Grosshirn der Chiroptera. Anat. Anz. **104** : 142–149 11 figs.

Schneider, R. (3). Morphologische Untersuchungen am Gehirn der Chiroptera (Mammalia). Abh. senck. naturf. Ges. No. 495 : 1–92 77 figs.

Schomberg, G. British Zoos. A study of animals in captivity. London (Alan Wingate) pp. 194 frontis. 64 pls.

Schorger, A. W. The moose in early Wisconsin. Trans. Wisc. Acad. Sci. Arts Lett. **45** : 1–10 map.

Schramm, P. A new homing record for the little brown bat. J. Mammal. **38** : 514–515.

Schröder, L. Zur Anatomie und Topographie einiger Organe des Borstengürteltieres (*Chaetophractus villosus*). Zool. Gart., Lpz. **23** : 28–36 7 figs.

Schröder, L. *see* Hoffmann.

Schuller, L. (1). Vom "Wachen" der Hunde. Säugetierk. Mitt. **5** : 106–111.

Schuller, L. (2). Zur Euter-Suche junger Huftiere. Säugetierk. Mitt. **5** : 170.

Schuller, L. (3). Hunde im Zoo. Zool. Gart., Lpz. **23** : 184–189.

Schultz, C. B. & Tanner, L. G. Medial Pleistocene fossil vertebrate localities in Nebraska. Bull. Univ. Neb. St. Mus. **4** : 57–81 7 figs.

Schultz, C. B. *see* Macdonald.

Schultz, V. Status of the gray and fox squirrels in Tennessee. J. Tenn. Acad. Sci. **32** : 228–239 1 fig.

Schulze, W. Fraktur eines Stosszahnes bei einem Indischen Elefantenbullen. Zool. Gart., Lpz. **23** : 13–18 8 figs.

Schwartz, A. & Odum, E. P. The woodrats of the eastern United States. J. Mammal. **38** : 197–206 1 fig.

Schwartz, S. S. *see* Smirnov.

Schwarz, S. S., Smirnov, W. S. & Krotova, L. G. Some regularities of accumulation of the vitamin A in the muskrat in natural conditions. Bull. Acad. Sci. USSR Ser. Biol. **1957** 3 : 343–351.

Scott, A. *see* McEwen.

Scott, P. *see* Hanson.

Seago, J. *see* Hill, W. C. O.

Searle, A. G. & Spearman, R. I. 'Matted,' a new hair-mutant in the house-mouse : genetics and morphology. J. Embryol. exp. Morp. **5** : 93–102 1 pl. 5 figs.

Searle, A. G. *see* Jude.

Sebek, Z. Uber die grosse Hufeisennase (*Rhinolophus ferrum-equinum* Schreb.) in der Tschechoslowakei. Mém. Soc. Zool. Tchécosl, **20** 1956 : 313–326 1 fig. [Czech with German summary.]

Seitz, A. (1). Tragzeit, Fruchtbarkeit, Todesursachen beim Mahnenschaf (*Ammotragus lervia* Pallas). Zool. Gart., Lpz. **23** : 54–57 1 fig.

Seitz, A. (2). Todesursachen beim Haus-Ren. Zool. Gart. Lpzg. **23** : 249–250.

Sellers, E. A. Adaptive and related phenomena in rats exposed to cold. A review. Rev. canad. Biol. **16** : 175–188.

Semenov-Tian-Shansky, O. & Knorre, E. In connection with the paper of A. I. Likhachev "Adaptive morpho-functional peculiarities in the organs of locomotion of the elk." Zool. Zh. **36** : 946. [Russian with English summary.]

Sen, S. The Hodgson's or Orange-bellied flying squirrel. J. Bengal nat. Hist. Soc. **28** 1956 : 166–170 1 pl.

Senet, A. L'acétose des Ruminants. Nature, Paris No. 3264 : 129.

Senyurek, M. A new species of *Epimachairodus* from Kucukyozgat. Belleten, Ankara. **21** 81 : 1–60 22 figs.

Sergeant, D. E. & Fisher, H. D. The smaller Cetacea of Eastern Canadian waters. J. Fish. Res. Bd. Can., **14** : 83–115 8 figs.

Serventy, D. L. Ludwig Glauert—museum director and naturalist. W. Aust. Nat. **5** : 148–165 4 figs.

Setzer, H. W. (1). The hedgehogs and shrews (Insectivora) of Egypt. J. Egypt. Publ. Hlth. Ass. **32** : 1–17.

Setzer, H. W. (2). A review of Libyan mammals. J. Egypt. Publ. Hlth. Ass. **32** : 41–82.

Setzer, H. W. (3). The jerboas of Egypt. J. Egypt. Publ. Hlth. Ass. **32** : 265–271.

Setzer, H. W. (4). An extra tooth in *Crocidura*. J. Mammal. **38** : 258–259 1 pl.

Seydian, B. *see* Petter.

Shackelford, R. M. The curly and Angora characters in the ranch mink. J. Hered. **48** : 129–132 1 fig.

Shadle, A. R. Sizes of beaver chips cut from aspen. J. Mammal. **38** : 268.

Shaner, R. F. The persisting right sixth aortic arch of mammals, with a note on fetal coarctation. Anat. Rec. **125** 1956 : 171–184 16 figs.

Shanks, P. L., Allan, R. M. & Brown, P. W. Myxomatosis in rabbits with special reference to the north of Scotland. Trans. Highl. agric. Soc. Scot. (6) **1** : 64–79.

Shapiro, J. *see* Anderson.

[**Shaposhnikov, F. D.**] **(1).** [Data on the ecology of musk-deer in north-eastern Altai]. Zool. Zh. **35** 1956 : 1084–1093 2 figs. [English summary.]

[**Shaposhnikov, F. D.**] **(2).** [Snow leopards in Western Tyan-Shan.] Priroda No. 7 1956 : 113–114 3 figs. [In Russian.]

Sharma, G. P., Suri, K. R. & Vali, K. N. A study on the "reaction time" and some of the semen characteristics of the betal breed of goat. Res. Bull. Panjab Univ. No. 101 : 217–227.

Sharma, S. C. *see* Krishna.

Sharma, S. C. *see* Prakash.

Sharman, G. B. *see* Ford.

Shaw, T. H. Occurrence of the muskrat in Hu Ma district, north-eastern China. Nature, Lond. **180** : 1215 1 fig.

Sherman, H. B. General biotic relations of the Florida mammal fauna. Quart. J. Fla. Acad. Sci. **20** : 149–173 map.

[**Shidlovski, M. V.**] **(1).** [The rodents of South Osetia.] Trud. Inst. Zool. Tiflis **10** 1951 : 187–220 12 figs. [In Russian.]

[**Shidlovski, M. V.**] **(2).** [Systematics and distribution of *Glis glis* in Georgia.] Trud. Inst. Zool. Tiflis **13** 1954: 47–61 map. [In Russian.]

[**Shidlovski, M. V.**] **(3).** [Gerbillidae in Georgia.] Trud. Inst. Zool. Tiflis **13** 1954 : 63–69. [In Russian.]

[**Shidlovski, M. V.**] **(4).** [The systematics and distribution of *Dryomys nitedula* in Georgia.] Trud. Inst. zool. Tiflis **14** 1956 : 249–259. [In Russian.]

Shikama, T. On the desmostylid skeletons. Nat. Sci. & Mus. Tokyo **24** : 16–21 2 pls. [Japanese with English summary.]

Shimizu, M. On the relative growth of bones in adult Voles (*Microtus montebelli*). Zool. Mag., Tokyo **54** 1942 : 142–143. [English summary.]

Shipp, W. S. The last of London's foxes? Ctry. Life. Lond. **122** : 128.

Shitarev, I. S. *see* Tavrovsky.

Shmatko, G. I. *see* Petrov.

Shorten, M. Squirrels in England, Wales & Scotland, 1955. J. Anim. Ecol., **26** : 287–294 1 fig.

[**Shubin, I. G.**] [Influence of the geographical environment on reproduction of *Ochotona pallasi*.] Trud. Inst. Zool. Alma Ata **6** 1956 : 61–77 5 fig. [In Russian.]

[**Shumkina, O. B.**] [The development of thymus in cow.] C.R. Acad. Sci. Moscow **112** : 363–365 Pl. [In Russian.]

Siebenaler, J. B. *see* Caldwell.

Siebert, G. & Lang, K. Energiewechsel. Handb. Zool., Berl. **8** 4 (2) (Lfg. 11): 1–24.

Silva, P. H. D. H. De. On a zoological collecting tour of the islands off Jaffna. J. Bombay nat. Hist. Soc. **54** : 322–334 map.

Simonetta, A. (1). Sull' esistenza di giunti cinetici nel cranio di alcuni insettivori (*Myosorex*, *Talpa*) e sul loro possibile significato. Monit. zool. ital., **64** : 172–180 3 figs.

Simonetta, A. (2). Condrocranio e dermascheletro di *Chrysochloris asiatica* (Linnaeus). Monit. zool. ital. **65** : 28–47 8 figs.

Simpson, G. G. & Couto, C. de P. The mastodonts of Brazil. Bull. Amer. Mus. Nat. Hist. **112** : 125–190 23 pls. 11 figs.

Sirlin, J. L. Location of vacillans in linkage group VIII of the house mouse. Heredity **11** : 259–260.

Sirlin, J. L. & Edwards, R. G. Duration of spermatogenesis in the mouse. Nature, Lond. **180** : 1138–1139.

[**Siroyechkovsky, E. E.**] [Occurrence of nutria in Dagestan.]Priroda No. 7 1956 : 99–101 2 figs. [In Russian.]

Siroyechkovsky, E. E. *see* Naumov.

Skreb, N. Etudes cytologiques sur l'oeuf de quelques Cheiroptères. Arch. Biol., Paris **68** : 381–428 2 pls. 11 figs.

Slee, J. The morphology and development of 'ragged'—a mutant affecting the skin and hair of the house mouse. 1. Adult morphology. J. Genet. **55** : 100–121 2 pls 7 figs.

Slizynski, B. M. Cytological analysis of translocations in the mouse. J. Genet. **55** : 122–130 1 pl. 1 fig.

[**Sludski, A. A.**] [Reproduction of *Gazella subgutturosa*.] Trud. Inst. Zool. Alma Ata **6** 1956 : 78–108 8 figs. [In Russian.]

Sluiter, J. W. & Heerdt, P. F. van (1). Une expedition chiropterologique dans les grottes de l'Ardeche en 1956. Bull. mens. Soc. linn. Lyon **26** : 42–48.

Sluiter, J. W. & Heerdt, P. F. van (2). Distribution and decline of bat populations in S. Limburg from 1942 till 1957. Natuurh. Maandbl. **46** : 134–143 6 figs.

Sluiter, J. W. *see* Heerdt.

Smart, G. C. *see* Husted.

Smirnov, P. K. (1). On the breeding of wild and synanthropic forms of domestic mice (*Mus musculus* L.) in captivity. Vestn. Leningr. Univ. No. 3 : 55–61. [English summary.]

Smirnov, P. K. (2). A new device for registration and quantitative study of small rodents' mobility. Vestn. Leningr. Univ. No. 15 : 137–139 1 fig. [Russian only.]

Smirnov, P. K. (3). Some observations on the intra-specific mouse-like rodents ecophysiological differentiation. Vestn. Leningr. Univ. No. 21 : 106–114 3 figs. [Russian with English summary.]

Smirnov, V. S. The squirrel *Sciurus vulgaris exalbidus* Pall. in the forest steppe of Transural. Zool. Zh. **36** : 933–937 3 figs. [Russian with English summary.]

[**Smirnov, V. S. & Schwartz, S. S.**] [Seasonal variations in the relative weight of adrenals in mammals under natural conditions.] C. R. Acad. Sci. URSS **115** : 1193–1196. [In Russian.]

Smith, D. A. & Foster, J. B. Notes on the small mammals of Churchill, Manitoba. J. Mammal. **38** : 98–115 1 fig.

Smith, E. Experimental study of factors affecting sex ratios in the little brown bat. J. Mammal. **38** : 32–39.

Smith, W. W. Factors influencing the decline in commensal rat infestations in a rural area of southwestern Georgia. J. Mammal. **38** : 270–271.

Soepraptomo. Wild pigs in the Tuban district (Java). Penggemar Alam **36** : 41–44. [English summary.]

[**Sokolov, I. I.**] (**1**). [Certain directions of the morphology study in the domestic animals.] Zool. Zh. **36** : 39–48. [English summary.]

Sokolov, I. I. (**2**). On the Artiodactyla-fauna in the southern part of Yunnan-province (China). Zool. Zh. **36** : 1750–1760 4 figs. [Russian with English summary.]

Sokolov, N. N. Histological analysis of the sexual cycle of the Arctic fox. Zool. Zh. **36** : 1076–1083 4 figs. [Russian with English summary.]

Solimen, F. A. & Ghanem, Y. S. Thyrotrophic and gonadotrophic hormone contents of pituitaries and blood of dogs during the winter and summer. Nature, Lond. **179** : 102.

Solomon, R. J. Habits of the serow (*Capricornis sumatraensis* [Bechstein].) J. Bombay nat. Hist. Soc. **54** : 941.

Southern, H. N. *see* Chitty.

Southwick, M. D. *see* Hill, W. C. O.

Sowls, L. K. Reproduction in the Audubon cottontail in Arizona. J. Mammal. **38** : 234–243 2 figs.

Speake, D. W. *see* Haugen.

Spearman, R. I. *see* Searle.

Spencer, H. E. P. Red Crag deer from Trimley and Felixstowe. Trans. Suffolk Nat. Soc. **10** : 39–40.

Stach, J. *Agriotherium intermedium* n.sp. from the Pliocene bone breccia of Weze. Acta palaeont. polon. **2** : 1–18 2 pls.

Staffe, A. Über die Trag- und Reitnutzung des Rindes in Afrika und Latin amerika. Mitt. naturf. Ges. Bern N.F. **14**: 111–117 2 pls.

Stager, K. E. Records of the spotted bat from California and Arizona. J. Mammal. **38** : 260.

Stains, H. J. A new bat (genus *Leptonycteris*) from Coahuila. Publ. Mus. nat. Hist. Univ. Kans. **9** : 353–356.

Stallcup, W. B. (**1**). The bobcat, *Lynx rufus texensis*, in Dallas County, Texas. Field & Lab. **25** : 31.

Stallcup, W. B. (**2**). The ringtail cat, *Bassariscus astutus*, in Dallas County, Texas. Field & Lab. **25** : 79.

Stalmakova, V. A. On the occurrence of the jerboa *Jaculus turcmenicus* Vinogr. et Bondar in the Northern Kara-Kum and on some of its ecological and morphological peculiarities. Zool. Zh. **36** : 275–279. [Russian with English summary.]

Starck, D. (**1**). Beobachtungen an *Heterocephalus glaber* Rüppell 1842 (Rodentia, Bathyergidae) in der Provinz Harar. Z. Säugetierk. **22** : 50–56 3 pls.

Starck, D. (**2**). Ueber die Länge der Nabelschnur bei Säugetieren. Z. Säugetierk. **22** : 77–86.

Starck, D. (**3**). Zur Morphologie und Topographie der Leber von *Colobus polykomos abyssinicus* (Oken). Mitt. naturf. Ges. Bern N. F. **14** : 21–32 4 figs.

Stark, H. E. *see* Miles.

Starner, B. A. Notes on the mammals in three habitats in North Florida. Quart. J. Fla. Acad. Sci. **19** 1956 : 153–156.

Stehbens, W. E. Medial defects of the cerebral arteries of some mammals. Nature, Lond. **179** : 327–328.

Stehbens, W. E. *see* Magarey.

Stein, G. Hydrocephalus bei der Feldmaus, *Microtus arvalis*. Säugetierk. Mitt. **5** : 75 1 fig.

Stein, G. H. W. (**1**). Sippenbildung bei der Feldmaus, *Microtus arvalis* L. Z. Säugetierk. **21** 1956 [1957]: 156–160.

Stein, G. H. W. (**2**). Materialen zur Kenntnis der Feldmaus, *Microtus arvalis* P. Z. Säugetierk, **22** : 117–135 2 figs.

Stein, K. F. Genetical studies on the skeleton of the mouse. XXI. The girdles and the long limb bones. J. Genetics **55** : 313–324 17 figs.

Steinbacher, G. Zum Geweihgebrauch der Hirsche. Säugetierk. Mitt. **5** : 75.

Steiniger, F. (**1**). Der Maulwurf erobert eine Insel. Kosmos, Stuttgart **49** 1953 : 455–456 3 figs.

Steiniger, F. (2). Ein Hafen ohne Ratten. Kosmos, Stuttgart **53** : 295–299 7 figs.

Sternberg, C. N. A harp seal from the Leda clay west of Hull, Quebec. Canad. Fld. Nat. **70** : 97.

Steven, D. M. The bank vole in captivity. Nature, Lond. **179** : 33–34 2 figs.

Stewart, C. N. *see* Baron.

Stilwell, D. L. Jr. The nerve supply of the vertebral column and its associated structures in the monkey. Anat. Rec. **125** 1956 : 139–170 3 pl.

Stinson, R. H. *see* Mann.

Stogov, I. I. *see* Bibikov.

Stohl, G. Über die Stellung der Lagomorpha im System der Säugetiere. Ann. Inst. Biol. Tihany **24** : 51–57. [German summary.]

Stone, W. D. The gestation period of the two-toed sloth. J. Mammal. **38** : 419.

Stracey, P. D. (1). Tusks of Indian elephants. J. Bombay nat. Hist. Soc. **53** 1956 : 690–691.

Stracey, P. D. (2). On the status of the great Indian rhinoceros (*R. unicornis*) in Nepal. J. Bombay nat. Hist. Soc. **54** : 763–766 map.

Straus, W. L., Jr. Saldanha man and his culture. Science **125** : 973–974.

Strauss, F. (1). Die Implantationsvorbereitungen im Hamster-Uterus. Verhandl. Anat. Ges. 53 Versamml. Stockholm 1956 (1957) : 92–98 1 pl. 4 figs.

Strauss, F. (2). Die Placenta des Feldhasen. Acta Anat. **30** : 815–826 2 pls.

[**Strautman, E. I.**] [Influence of drought on distribution and biology of some species of rodents in Northern Kazakhstan.] Trud. Inst. Zool. Alma Ata **6** 1956 : 194–196. [In Russian.]

Strawiński, S. Vertebrates of the Wierzchlas Yew-Tree Preserve. Lesz. Nauk. Univ. M. Kopernika. Biol. No. 1 1956 : 105–148 2 maps. [English summary.]

Stroganova, A. S. On the Sciuridae-fauna in the southern part of Yunnan-province (China). Zool. Zh. **36** : 1761–1769 5 figs. [Russian with English summary.]

[**Strokov, V. V.**] [Winter breeding of *Sorex raddei*.] Priroda No. 7 : 113–114. [In Russian.]

Subramoniam, S. Some observations on the habits of the slender loris, *Loris tardigradus* (Linnaeus). J. Bombay nat. Hist. Soc. **54** : 387–398 5 pls.

Sulkin, S. E. & Others. Role of brown fat in pathogenesis of rabies in insectivorous bats (*Tadarida b. mexicana*). Proc. Soc. exp. Biol. Med. **96** : 461–464.

[**Surkova, L. A. & Tzis, Y. V.**] [Mechanised spray of poisonous bait in controlling field mice.] Trud. Nauch. Issled. Protiv. Inst. Stavropol **1** 1956 : 427–429 fig. [In Russian.]

Svihla, A. (1). Dental caries in the Hawaiian dog. Occ. Pap. Bishop Mus. **22** : 7–13 2 figs.

Svihla, A. (2). Observations on French Frigate shoals, February 1956. Atoll res. Bull. No. 51 : 1–2.

Sweeney, R. C. H. Some notes on the feeding habits of the ground pangolin *Smutsia temminckii* (Smuts). Ann. Mag. nat. Hist. (12) **9** 1956 (1957) : 893–896.

Swenson, L. E., L. Some problems of storing small mammal skulls. J. Colo. Wyo. Acad. Sci. **4** : 41.

Symons, H. W. & Weston, R. D. An underfished humpback population? Norsk Hvalfangsttid. **46** : 231–238.

Szunyoghy, J. Systematische Revision des ungarländischen Schakals, gleichzeitig eine Bemerkung über das Rohrwolf-Problem. Ann. hist. nat. Mus. hung. N.S. **8** : 425–432 1 pl. 3 figs.

Taber, R. D. (1). Deer nutrition and population dynamics in the north coast range of California. Trans. N. Amer. Wildl. Conf. **21** 1956 : 159–172 3 figs.

Taber, R. D. (2). Uses of marking animals in ecological studies : Marking mammals : Standing methods and new developments. Ecology **37** 1956 : 681–685.

Taber, R. D. & Dasmann, R. F. The dynamics of three natural populations of the deer *Odocoileus hemionus columbianus*. Ecology **38** : 233–246 2 figs.

Taber, R. D., de Vos, A., & Altmann, M. Two marking devices for large land mammals. J. Wildlfe. Mgmt. **20** 1956 : 464–465 2 figs.

Talbot, L. M. (1). Stalking the great Indian rhino. Nat. geogr. Mag. **111** : 389–398 figs.

Talbot, L. M. (2). The lions of Gir : wildlife management problems of Asia. Trans. N. Amer. Wildl. Conf. **22** : 570–579 3 figs.

Tamate, H. The anatomical studies of the stomach of the goat. 1. The post-natal development of the stomach with special reference to the weaning and prolonged suckling. Tohoku J. agric. Res. **7** : 209–229 3 pls.

Tamino, G. Nota sui cetacei italiani—Rinvenimento di uno *Ziphius cavirostris* Cuv. presso il Lido di Fregene (Roma) il giorno 9. 111. 1957. Atti Soc. ital. Sci. nat. **96** : 203–210 6 figs.

Tamsitt, J. R. *Peromyscus* from the late Pleistocene of Texas. Texas J. Sci. **9** : 355–363.

Tanner, L. G. *see* Schultz.

Tappen, N. C. *see* Jacob.

[**Tarasov, P. P.**] [Some peculiarities of the morphology of the reindeer as a tundra animal.] Bull. Soc. Nat. Moscow biol. **61** 1956 : 80–82. [In Russian.]

Tarkowski, A. K. Studies on reproduction and prenatal mortality of the common shrew (*Sorex araneus* L.) Part II. Reproduction under natural conditions. Ann. Univ. M. Curie-Skłodowska **10C** : 177–244. [English summary.]

[**Tatarinov, K. A.**] **(1).** [On the ecology of some western-European mammals distributed in Ukraine.] Nauch. Rep. Uzhgorod. Univ. **21** 1956 : 67–80. [In Russian.]

[**Tatarinov, K. A.**] **(2).** [Studies on the fossil fauna of mammals in western Ukraine.] Trav. Mus. Zool. Acad. Sci. Ukr. No. 27 1956 : 177–180. [In Ukrainian, Russian summary.]

Tavolga, M. C. & Essapian, F. S. The behavior of the bottle-nosed dolphin (*Tursiops truncatus*) : mating, pregnancy, parturition and mother-infant behavior. Zoologica N.Y. **42** : 11–31 3 pls. 1 fig.

Tavrovsky, V. A. & Shitarev, I. S. Material of the feeding habits of the sable in North-Western Yakutia. Zool. Zh. **36** : 609–616. [Russian with English summary.]

Taxi, J. Étude au microscope électronique de ganglions sympathiques de Mammifères. C.R. Acad. Sci. Paris **245** : 564–567 1 pl.

Taylor, R. H. *see* Wodzicki.

Taylor, R. J. F. (1). An unusual record of three species of whale being restricted to pools in Antarctic sea-ice. Proc. zool. Soc. Lond. **129** : 325–331 7 pls.

Taylor, R. J. F. (2). The breeding and maintenance of sledge dogs. Polar Rec. **8** : 429–440 3 figs.

Taylor, R. J. F. *see* Laws.

Tegner, H. (1). Fallow buck's head. Field **209** : 775.

Tegner, H. (2). A roe-deer farm in Sweden and its lessons. Field **210** : 391 2 figs.

Tegner, H. S. *see* Page.

Telle, H. J. Zur Feldmausbekämpfung mit insektiziden Substanzen. Z. angew. Zool. **44** : 13–18.

Tembrock, G. (1). Zur Ethologie des Rotfuchses (*Vulpes vulpes* [L.]), unter besonderer Berucksichtigung der Fortpflanzung. Zool. Gart. Lpzg. **23** : 289–532 231 figs.

Tembrock, G. (2). Das Verhalten des Rotfuchses. Handb. zool. Berlin **8** Lfg. 9, Teil 10 (15) : 1–20 17 figs.

Tennekoon, M. In search of the giant swamp elephant. Loris **7** : 444–446.

[**Tereschenko, M. P.**] [On the effect of the environmental factors on the susceptibility of common house mice to the tularemia.] Zool. Zh. **35** 1956 : 1250–1253. [In Russian.]

[**Ternovsky, D. V.**] [The American mink at the Altai.] Priroda No. 1 : 102–104 4 figs. [In Russian.]

Tester, J. *see* Dickerman.

Tevis, L., J. Pocket gophers and seedlings of red fir. Ecology **37** 1956 : 379–381.

Thaineua, M. *see* Elbel.

Thenius, E. (1). Über das Vorkommen von *Diceros pachygnathus* (Wagner) im Pannon (Unter-Pliozän) des Wiener Beckens. Neues Jb. Geol. Paleont. Monatsh. **1** 1956 [1957] : 35–39 1 fig.

Thenius, E. (2). Zur Kenntnis jungpleistozäner Feliden Mitteleuropas. Säugetierk. Mitt. **5** : 1–4 2 figs.

Thompson, H. V. Feeding habits of foxes. Bull. Mammal Soc. Brit. Isles No. 8 : 16–17. [Private circulation.]

Thorslund, P. Mammutfynd i Lerdal, Rattvik. Geol. Fören. Stockh. Förh. **79** : 249–250 1 fig.

Tibbits, F. D. *see* Hillemann.

Tietz, W. J. *see* Morrison.

[**Tikhova, V. A.**] [A contribution to the problem of pigment cell innervation.] C.R. Acad. Sci. URSS **113** : 1154–1157 4 figs. [In Russian.]

Timmerman, A. De " laatste " Steenmarter van Genemuiden (*Martes foina*). Levende Nat. **60** : 214–216.

[**Tinyakov, G. G.**] [A contribution to the problem of hair development in agricultural animals.] C.R. Acad. Sci. URSS **111** 1956 : 1109–1110 fig. pl. [In Russian.]

Taerien, M. J. Note on the cervical vertebrae of the La Chapelle man. S. Afr. J. Sci. **53** : 447–449 2 figs.

Tomilin, A. G. Mammals of U.S.S.R. and adjacent regions. **9** Cetacea pp. 1–756 12 col. pls. 146 figs.

Tong, E. H. World register of Père David's deer. Proc. zool. Soc. Lond. **129** : 343–349.

Tonpi, K. V. *see* Deoras

Topachevsky, V. A. (1). New *Citellus* species from the Upper Pliocene deposits in the South of the Ukrainian SSR. Dopovidi Akad. Nauk Ukr. RSR No. 2 : 204–208 13 figs. [English summary.]

[**Topachevski, V. A.**] **(2).** [Late Pleistocene and Holocene fauna of mammals in the contemporary alluvial deposits of the lower Dnieper.] Trud. Inst. Zool. Kiev **14** : 113–128. [In Ukrainian with Russian summary.]

[**Topachevski, V. A.**] **(3).** [Study of fauna of late Pliocene and early Anthropogen vertebrates of the ancient alluvium deposits in south Ukraine.] Trud. Inst. zool. Kiev **14** : 141–147.

Tortonese, E. Oscar de Beaux. Ann. Mus. Stor. nat. Genova **68** 1956 : 351–358.

Toschi, A. Missione del Prof. G. Scortecci in Somalia nel 1955—Mammiferr. Atti Soc. ital. Sci. nat. **95** 1956 : 121–128.

Tratz, E. P. Beiträge zur Kenntnis der embryonalen Entwicklung der Gemse (*Rupicapra rupicapra*). Zool. Gart., Lpz. **23** : 194–220 28 figs.

Travassos, L. & H. Excursão cientifica realizado nas zonas da estrada de Ferro Noroeste do Brasil e Brasil-Bolívia em Janeiro e Fevereiro de 1955. Publ. avuls. Mus. nac. Rio de J. No. 20 : 5–19.

Trevan, D. J. *see* Hancock.

Troughton, E. (1). A new native dog from the Papuan highlands. Proc. R. Zool. Soc. N.S.W. 1955–56 (1957) : 93–94.

Troughton, E. (2). The kangaroo family. Brush wallabies. Aust. Mus. Mag. **12** : 186–192 3 figs.

Troughton, E. (3). The kangaroo family. Kangaroos and wallaroos. Aust. Mus. Mag. **12** : 230–237 4 figs.

Trumler, E. Ein Hartmann-Zebra, *Equus zebra hartmannae* Matschie, 1898 mit Zwischenstreifen. Säugetierk. Mitt. **5** : 173–174 1 fig.

Truslove, G. M. *see* Deol.

Truyols Santonja, J. *see* Crusafont Pairo.

Tsurikov, A. N. Eine Methode zum Messen der Kopf-, Rumpf- und Schwanzlänge bei lebenden Albino-Mäusen. Säugetierk. Mitt. **5** : 72–74 1 fig.

Tsiyuki, H. On the oils contained in various blubbers of the northern elephant seal, *Mirounga angustirostris*. Sci. Rep. Whales Res. Inst., Tokyo, No. 12 : 235–240 3 figs.

Tuček, K. Přírodovedecká Musea ve švýcarska. Čas. nár. Mus. **126** : 3–10 3 figs.

Tucker, H. M. Little spotted bat in Idaho. J. Mammal. **38** : 406.

[**Tupikova, N. V., Kucheruk, V. V. & Lavrova, M. Y.**] [Experiment in marking small rodents in afforested areas and wooded gulley.] Bull. Soc. Nat. biol. **61** 2 1956 : 21–33. [English summary.]

Turcek, F. J. (1). Zur Verbreitung der Bisamratte, *Ondatra zibethica* (Linné, 1766), in der Slowakei. Säugetierk. Mitt. **5** : 104–106.

Turcek, F. J. (2). Bemerkungen zur Überwinterung der Feldmaus, *Microtus arvalis* (Pallas, 1779), auf Borstgras-Wiesen. Säugetierk. Mitt. **5** : 170.

Turcek, F. J. (3). Über die Zuverlässigkeit des Indexes " Ausbeute in 100 Fallennächten " bei quantitaven Untersuchungen der Populationen von Kleinsäugetieren. Biólogia, Bratislava **12** : 362–373. [German summary.]

Turova-Morozova, L. G. *see* Geptner.

[**Turyanin, I. I.**] [Ecological and faunistic analysis of Microtines of Transcarpathian Land.] Nach. Rap. Uzhgorod. Univ. **21** 1956 : 81–91. [N.V.] [In Russian.]

Tuzet, O., Vogeli, M. & Manier, J.-F. La spermatogenèse du daman arboricole *Dendrohyrax dorsalis*. Ann. Sci. nat. (zool.) (11) **19** : 15–21 3 figs.

Twist, T. F. & Twist, D. M. Record of a beaked whale from Balandra. J. Trinidad Fld. Nats. Cl. **1956** [1957] : 26–27.

Tzis, Y. V. *see* Surkova.

Uda, M. & Dairokuno, A. Studies of the relation between the whaling grounds and the hydrographic conditions. II. A study of the relation between the whaling grounds off Kinkazan and the boundary of water masses. Sci. Rep. Whales Res. Inst., Tokyo No. 12 : 209–224 4 figs.

Udluft, H. & Jacobshagen, V. Zur Gliederung des Pleistozäns im Niederhessen. Notizbl. hess. Landesamt. Bodenforsch. **85** : 255–281 3 pls. 5 figs.

[**Ugolev, A. M.**] **(1).** [Adaptive properties of gastric juice. C.R. Acad. Sci. URSS **113** : 230–232. [In Russian.]

[**Ugolev, A. M.**] **(2).** [On the specificity of blood amylase in cats and rabbits.] C.R. Acad. Sci. URSS **113** : 478–480. [In Russian.]

Ulmer, F. A. Breeding of Orang-utans. Zool. Gart., Lpz. **23** : 57–65 5 figs.

Upcott, G. C. Foxes at Highgate. Ctry. Life, Lond. **122** : 310.

Urich, F. W. & Wehekind, L. Notes on some Trinidad bats, with additional observations by Ludolf Wehekind. J. Trinidad Fld. Nat's. Cl. **1956** [1957] : 18–21.

Utne, F. *see* Njaa.

Utsi, M. N. P. The future of reindeer in Scotland. Oryx **4** : 40–42.

Vachold, J. Fledermäuse der Höhlen im Karstgebiet von Jasov und Zádièl. Biológia, Bratislava **12** : 195–202. [Czech with German summary.]

Vallois, H. V. Les singes géants fossiles de la Chine quaternaire. Nature, Paris No. 3270 : 386–390 4 fig.

Valverde, J. A. Notes ecologiques sur le lynx d'Espagne *Felis lynx pardina* Temminck. Terre et la Vie **104** : 51–67 4 figs.

Van Deusen, H. M. Results of the Archbold Expeditions. No. 76. A new species of Wallaby (Genus *Dorcopsis*) from Goodenough Island, Papua. Amer. Mus. Nov. No. 1826 : 1–25 4 figs.

van Frank, R. A fossil collection from Northern Venezuela. 1. Toxodontidae (Mammalia, Notoungulata). Amer. Mus. Novit. No. 1850 : 1–38 12 figs.

Van Gelder, R. G. The sheep that was a legend. Anim. Kingd. **60** : 2–5 5 figs.

Vangstein, E. *see* Jahn.

Various. Studies in rat control. Mitt. biol. Zentr. Anst. Biol. No. 75 1953 : 184–210.

Venables, O. M. & Venables, L.S.V. Mating behaviour of the seal *Phoca vitulina* in Shetland. Proc. zool. Soc. Lond. **128** : 387–396 2 figs.

[**Vereschagin, N. K.**] **(1).** [The pleistocene vertebrates from the Kudero I cave in South Ossetia, and their importance for the study of the fauna and landscape history of the Caucasus.] C.R. Acad. Sci. URSS **113** : 1347–1349 figs. [In Russian.]

[**Vereshchagin, N. K.**] **(2).** [The " marks " of the ancient life in the Northern Ural.] Priroda No. 4 : 103–104 3 figs. [In Russian.]

[**Vereshchagin, N. K.**] **(3).** [Remains of mammals in the lower Quaternary deposits of the Tamansk Peninsula.] Trav. Inst. zool. Acad. Sci. URSS **22** : 9–74 11 pls. 30 figs. [In Russian.]

[**Vereshchagin, N. K. & Kolbutov, A. D.**] [Remains of animals at Mustersk near Stalingrad and the stratigraphic position of the paleolithic layer.] Trav. Inst. Zool. Acad. Sci. URSS **22** : 75–89 7 figs. [In Russian.]

Vermande-van Esk, G. J. Neo-ovogenesis in the adult monkey. Consequence of atresia of ovocytes. Anat. Rec. **125** 1956 : 207–224 2 figs.

Verme, L. J. Acorn consumption by chipmunks and white-footed mice. J. Mammal. **38** : 129–132.

Verney, E. B. *see* Jewell.

Verschuren, J. Écologie, biologie et systématique des Cheiroptères. Explor. Parc Nat. Garamba. Miss. de Saeger, Inst. Parcs Nation. Congo Belge, Brussels No. 7 1–473 : 1 pl. 178 figs. map.

Verts, B. J. The population and distribution of two species of *Peromyscus* on some Illinois strip-mined land. J. Mammal. **38** : 53–59 2 figs.

Vézia, R. A propos d'un Eléphant de la région de Nioro-du-Sahel. Notes afr. No. 73 : 26–27.

Vialli, V. I vertebrati della breccia ossifera dell' Interglaciale Riss—Würm di Zandobbis (Bergamo). Atti Soc. ital. Sci. nat. **96** : 51–85 3 pls. 1 fig.

Vieira, C. da C. Sobre mamiferos do estado do Maranhao. Pap. Dep. Zool. Sec. Agric. S. Paulo. **13** : 125–132.

Vietinghoff-Reisch, A. Frh. v. Gibt es im Juni geworfene Siebenschläfer (*Glis glis*)? Säugetierk. Mitt. **5** : 74.

Villa, R. B. *see* Malaga Alba.

Villalta-Comella, J. F. de *see* Crusafont-Pairo.

Vincent, A.-M. *see* Delost.

Vincent, J. Le remaniement de l'os compact chez le Cercopithèque. Arch. Biol., Paris, **68** : 561–579 2 pls.

Vinson, J. Sur la presence de l'éléphant de mer aux Mascareignes. Proc. Soc. Arts. Sci. Mauritius **1** 1956 : 315–318.

Virkki, N. Bregmaknochen im Schädel nordamerikanischer Eichhörnchen. Arch. Soc. zool.-bot. fenn. Vanamo **11** : 187–188 4 figs.

Vis, J. H. Histological investigations into the attachment of tendons and ligaments to the mammalian skeleton. Proc. ned. Akad. Wet. Amst. **60C** : 147–157 9 figs.

Vlerk, I. M. van der. Fluorine tests of Pleistocene mammalian skeletons. Proc. ned. Akad. Wet. Amst. **60B** : 117–119.

Vogeli, M. *see* Tuzet.

Voipio, P. (1). Some remarks on the taxonomy of Finnish squirrels. Arch. Soc. zool.-bot. fenn. Vanamo **11** : 97–107 2 figs.

Voipio, P. (2). Uber die polymorphie von *Sciurus vulgaris* L. in Finnland. Ann. Zool. Soc. Zool. Bot. Vanamo **18** (7) : 1–24 4 figs.

Voipio, P. (3). Nisakkaïden suurryhmät ja nüden fylogeneettinen perusta. Luonnon Tutkija **61** : 1–5 2 figs.

Volf, J. A propos de la reproduction du Fennec. Mammalia, Paris, **21** : 454–455.

[**Vorontzov, N. N.**] [The existing numbers of *Clethrionomys rutilus* Pall.] Bull. Soc. Nat. Moscow biol. **61** 4 1956 : 82–83. [In Russian.]

Vorontsov, N. N. *see* Ganeshina.

Vos, O. *see* Zaalberg.

Vries, H. de *see* Wijngaarden.

Wackernagel, H. Versuch einer zeitgemässen Zootierernährung. Rev. suisse Zool. **64** : 263–268.

Wade, N. J. *see* Panuska.

Wahrman, J. *see* Zahavi.

Wal, P. van der. The structure of the substantia compacta of the metatarsus in relation to the calcium and phosphormetabolism of cattle. Meded. Landb. Hoogesch., Wageningen **56** 1956 : 1–95 19 figs. [Dutch with English summary.]

Walker, C. A. Studies of the cattle of Northern Rhodesia. II. The apocrine gland population of the skin of Northern Rhodesian cattle and its connexion with the heat toleration coefficient. J. agric. Sci. **49** : 401–404.

Wallace, M. E. A balanced three-point experiment for linkage group V of the house mouse. Heredity **11** : 223–258.

Wallin, L. Ringmärkning av fladdermöss. Zool. Revy. **18** 1956 : 34–39.

Walling, J. J. Présence de la Barbastelle en Bretagne. Mammalia, Paris **21** : 455.

Wang, T. Y. Pontian mammalian localities in Puhsien, Hsihsien and Lishan districts, Shansi. Vertebrata Palasiatica **1** : 167–168. [English summary.]

Warren, J. M. & others. Function of association cortex in monkeys. Brit. J. Anim. Behav. **5** : 131–138 1 fig.

Warren, J. M. *see* Baron.

Wassif, K. Studies on gerbils of the subgenus *Dipodillus* recorded from Egypt. A'in Shams Sci. Bull. 1, 1956 : 173–194.

Waters, J. H. Second find of *Thomomys talpoides* from late Pleistocene in Kansas. J. Mammal. **37** 1956 [1957] : 540–542 1 fig.

Watson, D. M. S. James Peter Hill 1873–1954. Biogr. Mem. roy. Soc. **1** 1955 : 101–117 portr.

Watson, G. W. & Scott, R. F. Aerial censusing of the Nelchina caribou herd. Trans. N. Amer. Wildl. Conf. **21** 1956 : 499–510 2 figs.

Watson, J. S. Reproduction of the wild rabbit, *Oryctolagus cuniculus* (L.), in Hawke's Bay, New Zealand. N.Z. J. Sci. Tech. **38B** : 451–482 11 figs.

Webb, G. C. A guide to West African mammals. Ibadan University Press 40 pp. 35 figs.

Webb, R. Range studies in Banff National Park, Alberta, 1953. Wildl. Mgmt. Bull. (1) No. 13 : 1–24 11 figs.

Webster, W. M. Susceptibility of the hedgehog (*Erinaceus europaeus*) to infection with *Leptospira pomona*. Nature, Lond. **180** : 1372.

Weill, J. S. & Kayser, C. Les réserves glycogéniques et lipidiques du foie chez la Marmotte (*Arctomys marmota*, *Marmota monax*) en état d'activité en été et au cours du sommeil hivernal. C.R. Soc. Biol. Paris **151** : 374–377.

Weinert, H. (1). Der menschenähnlichste Vormenschen-Schädel. Kosmos, Stuttgart **46** 1950 : 485–490 9 figs.

Weinert, H. (2). Wieder neue Vormenschenfunde aus Südafrika. Kosmos, Stuttgart **48** 1952 : 30–37 7 figs.

Weinert, H. (3). Ist der Neandertaler ausgestorben? Kosmos, Stuttgart **53** : 99–103 10 figs.

Weir, T. Where the seals come ashore. Field **210** : 928–929 8 figs.

Wells, L. H. Speculations on the palaeogeographic distribution of antelopes. S. Afr. J. Sci. **53** : 423–424.

Wells, L. H. & Cooke, H. B. S. Fossil Bovidae from the Limeworks Quarry, Makapansgat, Potgietersrust. Palaeont. Africana **4** : 1–55 24 figs.

Wendt, R. F. *see* Doll.

Wernert, P. Stratigraphie paléontologique et préhistorique des sédiments quarternaires d'Alsace Achenheim. Mém. Carte géol. Als.-Lorr. **14** : 1–259 24 pls. figs.

Wessel, M. Vom Zwergwiesel (*Mustela minuta* Pomel) in Niedersachsen. Beitr. Naturk. neidersachs. **10** : 32–34 fig.

Weston, R. D. *see* Symons.

Wetherill, M. A. Occurrence of coati in Northern Arizona. J. Mammal. **38** : 123.

White, M. J. D. An interpretation of the unique sex-chromosome mechanism of the rodent, *Ellobius lutescens* Thomas. Proc. zool. Soc. Calcutta, Mookerjee Mem. Vol. : 113–114.

Whitehead, G. K. (1). The history, status and distribution of deer in Britain. Bull. Mamm. Soc. Brit. Is. No. 7 : 2–8. [Private circulation.]

Whitehead, G. K. (2). Deer-stalking in 1956. Field **209** : 192–193 2 figs.

Whitehead, G. K. (3). Record British roe heads. Ctry. Life, Lond. **121** : 927 2 figs.

Whitehead, G. K. (4). Wild goats of Wales. Ctry. Life, Lond., **122** : 612–613 4 figs.

Whitehead, G. K. *see* Page.

Whitmore, F. C. *see* Kellogg.

Wijngaarden, A. van. (1). The mammal fauna of two Betuwe landscapes. Mammalia, Paris **21** : 267–300 2 pls. 5 figs.

Wijngaarden, A. van (2). De periodiciteit in de populatiemaxima van de veldmuis, *Microtus arvalis* Pallas, in Nederland, 1806–1956. Vakbl. Biol. **37** : 49–56 2 figs.

Wijngaarden, A. van & Vries, H. de. Nertsen in Nederland in het wild gevangen. Levende Nat. **60** : 303–304 1 fig.

Wildman, A. B. Classification of wool follicles in sheep. Nature, Lond. **180** : 99–100.

Wilkus, E. Vergleichend-anatomische Untersuchungen am Kopfe des Wisents—*Bison bonasus* (L.) 1. Cavum oris. Acta Theriologica, Warsaw **1** : 184–307 18 pls. 7 figs. [Polish with German summary.]

Williams, M. Morphology of the sternochondral joints of mammals. J. Morph. **101** : 275–305 32 figs.

Williams, R. M. *see* Reeves.

Williams, T. R. Marten and hawk harass snowshoe hare. J. Mammal. **38** : 517–518.

Williams-Hunt, P. D. R. *see* Harrison, J. L.

Wilson, J. A. Early Miocene Entelodonts, Texas coastal plain. Amer. J. Sci. **255** : 641–649 5 figs.

Wilson, N. Some ectoparasites from Indiana mammals. J. Mammal. **38** : 281–282.

Wilusz, Z. Untersuchungen über die Wanderung *Microtus arvalis* Pall. Ekol. polska **4A** 1956 : 333–348 2 figs. [German summary.]

Wiseman, J. S. *see* Eads.

Wodzicki, K. & Taylor, R. H. An experiment in rabbit control. Kourarau poison trials. N.Z. J. Sci. Tech. **38B** : 389–399.

Wojtusiak, R. J. *see* Kowalski.

Wolburg, I. Über die Entwicklung der Temperaturregulation bei Jungsäugern. Verh. dtsch. zool. Ges. **1956** 1957 : 79–85 4 figs.

Wolfe, H. R. *see* Pauly.

Woo, J. K. *Dryopithecus* teeth from Keiyuan, Yunnan Province. Vertebrata Palasiatica **1** : 25–31 1 pl.

Woo, J.-K. *see* Pei.

Wood, A. J. *see* Bandy.

Wood, A. E. What, if anything, is a rabbit? Evolution. **11** : 417–425 1 fig.

Wood, A. J. *see* Kitts.

Wood, F. G. *see* Moore.

Woodson, W. D. The nutria . . . a fur-bearer which might have evolved from 'spare parts.' Frontiers **21** : 67–70 3 figs.

Worden, A. N. & Lane-Petter, W. (Eds.). The UFAW Handbook on the care and management of laboratory animals. 2nd. ed. London (UFAW) pp. xix + 951 figs.

Worker, N. A. A note on the detoxication of cyanide in ruminants. N.Z. J. Sci. Tech. **38A** : 709.

Worthington, L. V. & Schevill, W. E. Underwater sounds heard from sperm whales. Nature, Lond. **180** : 291.

Wyatt, C. A threatened game sanctuary. Ctry. Life, Lond. **121** : 182–184 5 figs.

Wynter-Blyth, M. A. The lion census of 1955. J. Bombay nat. Hist. Soc. **53** 1956 : 527–536 map.

Yanovskaya, N. M. Sur la découverte de brotothere de le genre *Rhinotitan* en URSS. Vertebrata Palasiatica **1** : 187–192 1 pl. [French summary p. 191.]

[**Yanushevich, A. I. & Kidiraliev, A.**] [Mammals and birds of Pokrovsk ridge.] Trud. Inst. Zool. Parasit. Frunze **5** 1956 : 37–49. [In Russian.]

Yanushko, P. A. Population density and census of deers in the Crimean State game reserve. Zool. Zh. **36** : 1565–1570 2 figs. [Russian with English summary.]

[**Yatzko, I. Y.**] [O nakhodkakh ghien v drevnikh Karstoriukh peshcherakh g. Odessui.] Annu. Soc. paléont. russe **15** 1956 : 335–340 figs.

Yeager, L. E. & Remington, J. D. Sight observations of Colorado martens, 1950–1955. J. Mammal. **37** 1956 [1957] : 521–524.

Yeager, L. E. & Rutherford, W. H. An ecological basis for beaver management in the Rocky Mountain region. Trans. N. Amer. Wildl. Conf. **22** : 269–300 9 figs.

Yin, U. T. Rhinoceros in the Kachin State. J. Bombay nat. Hist. Soc. **53** 1956 : 692–694.

Young, C. C. On a new *Trogontherium* from Hsiatsaohwan, Shihhunghsien and with notes on the mammalian remains from Chi-Tsu, Wuhohsien, Anhwei. Act. Paleont. Sinica **3** 1 1955 : 55–66 figs. [N.V.]

Young, C. C. & Chow, M. M. Some Oligocene mammals from Lingwu, N. Kansu. Acta palaeont. Sinica **4** 1956 : 447–460 2 pls, 4 figs. [English summary pp. 455–459.]

Young, J. Z. The life of mammals, Oxford (Clarendon Press) pp. xv + 820 338 figs.

Young, W. C. *see* Goy.

[**Yurgenson, P. B.**] [Age definition of *Martes martes*.] Zool. Zh. **35** 1956 : 781–783. [In Russian.]

Zaalberg, O. B., Vos, O. & Bekkum, D. W. V. Surviving rat skin grafts in mice. Nature, Lond. **180** : 238–239 1 fig.

Zabinski, J. The progress of the European bison. Oryx **4** : 184–188 1 pl.

Zablotskaya, L. V. The fauna of mouse-like rodents in various types of forest on the left bank of the wide reaches of the Oka river. Bull. Soc. Nat. Moscow. Biol. **62** : 19–36 10 figs. [English summary.]

Zaccheo, D. & Oneto, G. B. P. Contributo alla conoscenza dell' uretere distale di *Cavia cobaya*. Monit. Zool. Ital. **64** : 133–139 3 figs.

Zagaikevich, I. V. *see* Grimalski.

Zahavi, A. & Wahrman, J. The cytotaxonomy, ecology and evolution of the gerbils and jirds of Israel (Rodentia : Gerbillinae). Mammalia, Paris, **21** : 341–380.

[**Zakharchenko, S. K. & Abramov, V. A.**] [Tests with poison baits in controlling the Middle Asian and Persian *Meriones* inAzerbaidjan.] Trud. Nauch.-Issled. Protiv. Inst. Stavropol **1** 1956 : 407–413. [In Russian.]

Zakharchenko, S. K. *see* Bakeev.

Zangheri, P. Fauna di Romagna, Mammiferi. Boll. Zool. **24** : 17–38.

Zapfe, H. Ein bedeutender *Mastodon*-Fund aus dem Unterpliozän von Niederosterreich. Neues Jb. Geol. Paläont. **104** 382–406 4 pls. 3 text-figs.

Zapfe, H. & Hürzeler, J. Die Fauna der miozänen Spaltenfüllung von Neudorf a.d. March (Č.S.R.) Primates. S.B. öst. Akad. Wiss. Abt. I. **166** : 113–123 2 figs.

[**Zemsky, V. A.**] (**1**). [Methods of establishing traces of corpora lutea of pregnancy and ovulation in the ovaries of female whalebone whales.] Bull. Soc. Nat. Moscow., Biol. **61** 6 1956 : 5–13. [English summary.]

Zemsky, V. A. (**2**). Some problems concerning the biology of propagation of the fin whale in the Antarctic. Bull. Soc. Nat. Moscow. Biol. **62** : 17–23. [English summary.]

[**Zhabinski, Y.**] [First gorilla born in captivity.] Priroda 10 : 113–114 2 figs. [In Russian.]

Ziegler-Simon, J. Beobachtungen am Rüsseldikdik, *Rhynchotragus kirki* (Gthr.). Zool. Gart., Lpz. **23** : 1–13 13 figs.

Zimmermann, K. (**1**). Muttersorgen beim Gartenschläfer. Kosmos, Stuttgart **52** 1956 : 60–63 6 figs.

Zimmermann, K. (**2**). Fledermäuse aus Afghanistan. Z. Säugetierk. **21** 1956 [1957] : 195–196.

Zimmermann, K. (**3**). Sind Gelbhalsmaus und Waldmaus miteinander kreuzbar? Z. Säugetierk. **22** : 214–217.

Zimmermann, K. (**4**). Hermelin-Beute und überwinternde Gelbhalsmaus in Nistkästen. Säugetierk. Mitt. **5** : 129.

Zimmermann, K. *see* Frank.

Zippelius, H. M. Zur Karawanenbildung bei der Feldspitzmaus (*Crocidura leucodon*). Bonn. Zool. Beitr. **8** : 81–85 2 figs.

Zirm, K. L. Ein Beitrag zur Kenntnis des natürlichen Winterschlafes und seines regulierenden Wirkstoffes III. Z. Naturf. **12B** : 589–593.

Zuckerman, S. *see* Herbert.

Zukowsky, L. & Haltenorth, Th. Das Erdferkel (*Orycteropus afer*) aus Angola, eine eigene Unterart? Säugetierk. Mitt. **5** : 124–126 1 fig.

Zumpt, F. Neue Haustiere in Südafrika? Kosmos, Stuttgart, **53** : 348–350 4 figs.

II.—SUBJECT INDEX

GENERAL LITERATURE AND HISTORY

Text Books and General Works.—Structure and physiology, **Young, J. Z.**; Textbook of fossil and recent primates,

with human palaeontology, **Piveteau (3)**; Primates, **Sanderson, I. T.**; Marmosets, monograph, **Hill, W. C. O. (2)**; The rat, anatomy, physiology, embryology, genetics, **Rowett**; Cetacea of U.S.S.R., **Tomilin**; Comparative anatomy of central nervous system of domestic animals, **Ghettie and others**; UFAW handbook on laboratory animals, **Worden & Lane-Petter** (Eds.); Quaternary Era, **Charlesworth.**

Faunal Works.—Pocket guide to mammals of N.W. Europe, **Ijsseling & Scheygrond**; Mammals of Portugal, with key, **Gama**; Pocket guide to Swedish mammals, **Curry-Lindahl**; List of Libyan mammals, **Setzer (2)**; Key to U.S. mammals, **Blair.**

History.—History of Capt. Cook's kangaroo, **Lysaght**; Occurrence of rats in early Europe, **MacArthur, W. P.**; History of Dürer's woodcut of Indian rhinoceros, **Cole, F. J.**; Horse in prehistorical and early historical times, **Hancar**; Animals in Near East bas-reliefs, **Schmökel.**

Obituaries.—de Beaux, **Tortonese**; Dr. J. E. Hamilton, **Matthews**; Prof. J. P. Hill, **Flynn**; J. P. Hill, **Watson, D. M. S.**; Sir Arthur Keith, **Le Gros Clark.**

Bibliographies.–Rabbit bibliography, **Makepeace**; L. Glauert, **Serventy**; de Beaux, **Tortonese.**

Taxonomy and Classification.—Rejection of Eberhard, 1768, **Opinion 445**; *Mormoops* Leach 1821 placed on Official List, **Opinion 462**; Validation of *gambianus* Ogilby 1835 as type species for *Heliosciurus* Trouessart 1880, **Opinion 464**; Validation of *silvestris* Schreber (1777), rejection of *ferus* Schreber (1775), for *Felis*, **Opinion 465**; Validation of *Phacochoerus* Cuvier (F.) 1826, **Opinion 466**; *Odobenus* Brisson 1762 validated, **Opinion 467.**

Museums and Collections.—Mammal group techniques, **Tucek.**

Zoological Gardens.—Scientific diets for zoo animals, **Ratcliffe**; Scientific feeding system for zoo animals, **Wackernagel**; British zoos (except London), **Schomberg**; Lisbon Zoo, **Dohna**; World register of Père David's deer, **Tong**; Zoological park of Bamako, **Jaeger.**

Vernacular Names. — French and Spanish names for European mammals, **Dorst and others**; Aboriginal names for Malayan mammals, **Harrison, J. L. and others**; Vernacular names for N. American mammals, **Hall, E. R. and others.**

STRUCTURE

General. — Textbook of anatomy, **Young, J. Z.**; Investigation of Allen's rule, **Baranova**; Body weight–organ weight relations, **Frick (2)**; Adaptations in diving mammals, **Harrison, R. J.**; Statistical analysis of fin whale measurements, **Ichihara**; Weights and oil yields of humpback whales, **Ash.**

Integumentary and Epidermal Structures.—Histology of skin, **Martzinkevich**; Skin of Steller's sea-cow, **Haffner (1), (2)**; Phylogeny of hair, **Elias & Bortner**; Hair structure in bats as generic character, **Benedict**; Hair, bristles and spines of porcupine, **Lochte**; Morphology of hairs in *Cricetus cricetus*, **Kourist**; Classification of wool follicles, **Wildman**; Bundles of primary wool follicles in sheep, **Lyne (1)**; Histology of eyelid in *Meriones*, **Abouharb**; Morphology of mutant hair in *Mus*, **Slee**; "Incisive horns" of hare, **Friant (5)**; Buccal pad in bats, **Lanza (1)**; Horn structure in rhinos, **Mohr (4).**

Osteology: General.—Ossification of cartilage of Meckel, **Friant (2)**; Humeral joint structure, **Samosh (1)**; Comparative morphology of carpal joint, **Manzy**; Sternochondral joint morphology, **Williams, M.**; Skeletal correlations in opossum, **Lowrance**; Sexual dimorphism of pelvic girdle in *Galemys*, **Peyre**; Caudal vertebrae of Potamogalinae, **Heim de Balsac (1)**; Comparative osteology of catarrhine primates, especially the pelvis, **Rickenmann**; Bones of foot in *Trachypithecus*, **Olivier & Fontaine**; Femur of langur, **Olivier & Piganiol**; Bone marrow of *Cavia*, **Fand & Gordon**; Limb skeleton of coypu, **Hoffmann & Schröder (1), (2)**; Variation in lumbar vertebrae numbers in wild and domestic horses, **Lengerken**; Bone of diaphragm in camel, **Maskar**; Study of type development in deer antlers, **Bubenik (2)**; Spinal column variability in domestic sheep, **Sokolov, I. I. (1)**; Sacralization of last lumbar vertebra in *Bison*, **Pilarski & Roskosz.**

Osteology: Skull.—Ear bones of fossil edentates, **Guth (2)**; Kinetic joints in *Myosorex* and *Talpa* skulls, **Simonetta**

(1); Occurrence of naso-frontal foramina in shrews, **Landry (4)**; Skull affinities of *Tupaia*, **Saban (1)**; Skull morphology variations in man, **Buistrov**; Bregma in squirrel skulls, **Virkki**; Skull variability in stoats and weasels, **Reichstein (3)**.

Dentition.—Study of dentine, **James, W. W.**; Milk dentition in molossid bats, **Dorst (1)**; Milk dentition in *Tonatia*, **Dorst (3)**; Procumbency in rodent upper incisors, **Landry (1)**; Taxonomic significance of dental pattern variation in *Peromyscus*, **Hooper (1)**; Innervation of rat teeth, **Bernick**; Dentition of fur seal, **Chiasson.**

Myology.—Relation of structure to function in muscle, **Krüger**; Attachment of tendons and ligaments to skeleton, **Vis**; Heart structure in primates, **Bortolami & Callegari**; Forearm and hand of chimpanzee, **Jouffroy & Lessertisseur**; Hand muscles of *Loris*, **Kanagasuntheram & Jayawardene**; Muscles of pharynx and palate in dog, **Dyce.**

Heart and Circulation.—Collagen and elastin in artery walls, **Harkness and others**; Blood supply of cerebral cortex, **Lewis**; Medial defects in cerebral arteries, **Stehbens**; Occipital artery phylogeny, **Adams, W. E. (2)**; Ductus arteriosus of rabbit, **Holmes**; Carotid sinus complex in hedgehog, **Adams, W. E. (1)**; Blood characteristics of *Cricetus cricetus*, **Raths**; Blood vessels of spinal cord of *Cavia*, **Coimbra**; Persistent right sixth aortic arch in pigs, **Shaner.**

Haematology.—Abnormal haemoglobins in African monkeys, **Jacob & Patten**; Blood cell counts in *Sylvilagus*, **Geis (1)**; Serology of carnivora, **Pauly & Wolfe**; Blood values of bear and raccoon, **Jacobs**; Blood picture of dog, **Pujman & others**; Blood chemistry of black-tailed deer, **Bandy and others.**

Nervous system: General.—Neurobiology symposium, **Kappers** (Ed.); Nuclei of nerve cells, **Baffoni (1)**; Neurosecretion, **Hanstrom**; Autonomic nervous system, **Kuntz**; Sympathetic ganglia of mammals, **Taxi**; Innervation of heart, **Abraham & Erdelyi**; Nerve supply of thoracic vertebrae, **Mulligan**; Maxillary nerve in Ceboidea, **Oxnard**; Nerve system of monkey vertebral column, **Stilwell**; Cranial nerves of fox squirrel, **Jenkins, T. W.**; Ground substance in cerebral cortex of rat, **Goodhead**; Innervation of rat teeth, **Bernick**; Nervous system of the intestine of cat, **Ivanova**; Innervation of pigment cells in cat, **Tikhova**; Innervation of dog's tongue, **Lavrentyeva**; Aortic nerve of horse, **King, A. S.**; Comparative anatomy of central nervous system of domestic animals, **Ghettie and others.**

Nervous System: Brain.—Study of Purkinje cells, **Baffoni (2)**; Brain of bats, **Schneider (1)**; Comparative brain measurements in bats, **Schneider (2)**; Endocranial casts of fossil bats, **Dechaseaux**; Brain in bats, morphological study, **Schneider (3)**; Endocranial casts of fossil lemurs, **Piveteau (2)**; Hypothalamus of lemurs, **Feremutsch**; Occipital region of primate brain, **Friant (3)**; Brain in Sciuridae, **Harde**; Relative size of neural and glandular lobes in rodents in relation to physiology, **Enemar & Hanstrom**; Cortex of *Pitymys*, **Delost & Vincent**; Foetal brain in fin whale, **Friant (1)**; Glia/nerve cell index in whale, **Hawkins & Olszenski**; Vestibular nuclei in cat, **Brodal & Pompeiano**; Convolutions and endocranial cast in ferret, **Darlington**; Olfactory bulbs in carnivores and ungulates, **Jawlowski**; Endocranial casts of fossil mammals, **Edinger.**

Sense Organs.—Olfactory organ of some insectivora, comparative study of structure and function, **Ganeshina and others**; Ear plugs of fin whales, **Nishiwaki (1).**

Vocal Organs. -Larynx in Colobidae **Hill & Booth.**

Alimentary System.—Spiral colon of muskrat, **Luppa**; Stomach of camel, **Hansen & Schmidt-Nielsen**; Stomach of goat, **Tamate.**

Excretory Organs.—Liver in *Colobus*, **Starck (3)**; Ureter structure in *Cavia*, **Zaccheo & Oneto.**

Reproductive System. — Genital specialisation, **Bryk**; Histochemistry of hedgehog placenta, **Morris, B.**; Placenta of hare, **Strauss (2)**; Male genital tract in sciurids, **Prasad**; Histology of rat epididymis, **Reid & Cleland**; Reproductive anatomy of male chinchilla, **Hillemann and others**; Histology of placenta in cow, **Kantorova**; Foetal membranes of aard vark, **Mossman.**

Endocrine glands.—Hormone contents of pituitaries and blood of dogs, **Soliman & Ghanem**; Hypophysis of giraffe, **Fontaine**; Development of thymus in cattle, **Shumkina.**

Other glands.—Salivary glands of hamster, **Michel**; Foot scent glands in mice, **Ortmann**; Vesicular gland in cattle, **Egli.**

Teratology and Abnormalities.—Dental abnormality in shrew, **Jones, J. K.** (1); Supernumerary molar in *Crocidura*, **Setzer** (4); Malocclusion in *Alouatta*, **Della Serra**; Extra incisors in a lemming, **Hansen** (1); Supernumerary teeth in *Peromyscus*, **Hooper** (4); Abnormal canine in peccary, **Neal & Kirkpatrick**; Abnormal dentitions in white-tailed deer, **Benson**; Medial defects in cerebral arteries, **Stehbens**; Asymmetrical mammae in *Citellus*, **Prychodko** (2); Gross abnormalities in *Mus*, **Bowman & Cattanach**; Cyclopean fin whale foetus, **Nishiwaki** (3); 'Monster' foetus in badger, **Didier & Cantuel**; Hairlessness in lion cubs, **Menon**; Jaws and teeth of 2-headed kitten, **Gaunt**; Muscular atrophy in new born pig, **Schilling.**

Histology and Cytology.—Ageing of cells, **Bourne**; Histology of white whale pancreas, **Quay** (2); Structure and function of peptic cells, **Moussa & Khattab**; Mast cell studies, **Padawer**; Golgi complex of male germ cells, **Gresson**; Cytological bases of sex linkage, **Matthey** (3); Chromosome variation in shrews, first reported case in mammals, **Ford & Hamerton**; Chromosome polymorphism in shrew, **Ford and others**; Chromosome numbers of Cercopithecidae, **Chu & Giles**; Chromosome numbers in rat liver cells, **Marquardt & Gläss**; Cytology of microtines, **Matthey** (2); Cytology of Israel gerbillines, **Zahavi & Wahrman**; Sex chromosomes of *Cricetulus griseus*, **Husted and others**; Chromosomes of *Meriones*, **Matthey** (1); Chromosomes of field voles, **Austin**; Sex-chromosome mechanism of *Ellobius lutescens*, **White**; Cytology of translocations in *Mus*, **Slizynski**; Chromosome constancy in corneal epithelium of mouse, **Beatty** (3); Mink chromosomes, **Lande** (2); Chromosomes of ferret, **Lande** (1); Chromosomes of domestic buffalo, **Girolamo**; Sex chromatin in freemartins, **Moore, K. L. and others**; Viability of cells after freezing, **Parkes and others.**

Biochemistry.—Serum magnesium of hibernating mammals, **Riedesel & Folk**; Glucuronuria in marsupials, **Hinks & Bolliger**; Analysis of *Mirounga* oil, **Tsuyuki**; Analysis of camel milk, **Grzimek** (8).

Techniques.—*Lynx* as subject for zoology courses, **Pfeiffer** (1); Effect of paradichlorbenzene on plastic tubes for skulls, **Swenson.**

PHYSIOLOGY

General. — Mammalian physiology, **Young, J. Z.**; Changes in lipids of interscapular brown fat in *Myotis*, **Remillard**; Ontogeny of physiological regulations in rat, **Adolph**; Ecophysiological differentiation in small rodents, **Smirnov, P. K.** (3); Adaptations in diving mammals, **Harrison, R. J.**; Biochemistry of energy production, **Siebert & Lang.**

Integument.—Symposium on hair growth, **Anon.** (20); Hairlessness in mammals, **Hill, W. C. O.** (3); Insulation properties of fur in small mammals, **Morrison & Tietz**; Development and replacement of hair in *Perameles*, **Lyne** (2); Moult and pelage fading in bats, taxonomic inferences, **Constantine**; Sexual skin "warts" in gelada baboon, **Appelman**; Development of "silvering" in domestic rabbits, **Reintjes**; Juvenile pelage change in *Peromyscus*, **Gottschang**; Growth of bifid claws in *Dicrostonyx*, **Hansen** (3); Colour variation reflectometer measurements in *Thomomys*, **Getz**; Colour change in stoat in Switzerland and Britain, **Rothschild & Lane**; Recuperative power of rhino horn, **Jacobi**; Development of hair in ruminants, **Tinyakov**; Development of epidermis and hair canals in sheep foetus, **Lyne** (3).

Nutrition and Metabolism.—Scientific diets for zoo animals, **Ratcliffe**; Scientific feeding of zoo animals, **Wackernagel**; Constitution and metabolism of young mammals, **Anon.** (21); Melting points of animal fats in cold climates, **Irving and others** (2); 24-hour rhythms in cold environment, **Folk**; Food consumption and body weight in American shrews, **Morrison and others**; Winter meta-

bolism of snowshoe hare, **Irving and others (1)**; Coprophagy in cottontail, **Geis (2)**; Reingestion in jack rabbit, **Lechleitner**; Digestive enzyme system of beaver, **Kitts, W. D. and others**; Effect of hibernation on metabolism of irradiated *Glis*, **Künkel**; Vitamin A accumulation in muskrat, **Schwarz and others**; Water metabolism experiments in *Dipodomys*, **Nichter**; Fat deposition in rats conditioned to cold, **Pagé**; Metabolic changes in rats exposed to cold. **Sellers**; Experimental dehydration of white mice, **Chew & Hinegardner**; Daily activity rhythm in coypu, **Lomnicki**; Food intake of small carnivores, **Howard (2)**; Digestion in dog, **Ugolev (1)**; Metabolism of seals in cold water, **Irving & Hart**; Camel water metabolism, **Schmidt-Nielsen**; Water metabolism of camel, **Schmidt-Nielsen and others**; Camel physiology, **Pond**; Detoxication of cyanide in ruminants, **Worker**; Technique of nutritional and metabolism studies with ruminants, **Cresswell**; Nutrition of white-tailed deer, **McEwen and others**; Rumination pattern in goats, **Bell & Lawn (1)**; Calcium and phosphorus metabolism of metatarsal growth in cattle, **Wal**; Ability of calves to digest grass, **McArthur, A. T. G.**; Difference in intestine physiology between zebus and European cattle, **Quarterman and others.** Feed requirements of four mammal species, **Cowan and others.**

Heart, Circulation and Blood.—Harvey's essay on circulation, new translation, **Harvey**; Pulse in bat wing veins, **Mislin & Helfer**; Electrocardiograms of lemurs, **Salles & Meyer**; Formation of antibodies in golden hamster, **Capurro & Rosenmann**; Production of antibodies by young rats, **Halliday**; Placental arterial supply in hamster, **Orsini**; Electrocardiogram of bobcat, **Pfeiffer (2)**; Blood amylase in cats and rabbits, **Ugolev (2)**; Blood pressure of sheep, **Magarey & Stehbens**; Function of lymphocytes, a symposium, **Anon (22)**.

Nervous System.—Neurobiology symposium, **Kappers (Ed.)**; Temperature effects in nerve regeneration, **Gamble**; Seasonal changes in brain in *Sorex minutus*, **Cabon**; Function of association cortex in monkeys, **Warren and others**; Variation of pineal body in *Peromyscus*, **Quay (1)**; Effect of cerebral lesions on oestrus in ferrets, **Herbert & Zuckerman**; Anterior hypothalmus as situation of osmoreceptors in dog, **Jewell & Verney**; Feline behaviour affected by bilateral amygdalectomy, **Morgane & Kosman**; Cerebral cortex connection with rumination in goat, **Bell & Lawn (2)**.

Sense Organs.—Audition in mammals, **Legouix**; Echo-location in East African bats, **Kulzer**; Echolocation in *Cardioderma*, **Möhres & Kulzer**; Colour preference tests with monkeys, **Rensch (1)**; Colour vision tests in *Ateles*, **Easter & Nichols**; Colour vision in squirrels, **Meyer-Oehme**; Colour vision in carnivores, **Dücker**; Hearing in cetacea, **Reysenbach de Haan**; Acoustic learning ability tests on elephant, **Reinert**; Use of senses in spatial orientation in hedgehogs, **Dylewska**; Scenting ability of brown rat, **Gruch**; Olfactory acuity tests on dogs, **Ashton and others (1)**; **Becker and others.**

Voice.—Voice in Colobidae, **Hill & Booth**; Underwater sounds from sperm whales, **Worthington & Schevill**; Voice in okapi, **Lang (2)**; The roaring of stags, **Reboussin.**

Muscle, Bone and Teeth.—Technique for measuring muscular effort, **Fleury**; Development of bone tissue, **Vincent**; Bone regeneration in skulls, **Polezhaev**; Thoracic limb function and thickness of articular cartilage, **Samosh (2)**; Seasonal skull changes in shrews, **Pucek (1)**; Cranial suture closure process in primates, **Chopra**; Age changes in basicranial axis in anthropoids, **Ashton (2)**; Skull development in *Loris*, **Ramaswami**; Morpho-functional analysis of jaw movement in Leporidae, **Lebedkina**; Relative bone growth in adult *Microtus*, **Shimizu**; Experimental alteration of rat skull suture growth, **Moss**; Osteology of known-age minks, **Greer**; Growth of metatarsus in cattle, **Wal**; Tooth eruption sequence in fossil and recent man, **Garn & Koski**; Rate of growth of elephant ivory, **Colyer & Miles**; Incisor wear in sheep, **Barnicoat.**

Endocrinology.—Endocrine activity and population density in voles, **Louch**; Seasonal variations in relative weight of adrenals, **Smirnov & Schwartz**; Relationship between adrenal weight

and population status in rats, **Christian & Davis**; Seasonal changes in thyroid in *Neomys*, **Dzierzykraj-Rogalska**; Role of thyroid in hibernating *Eliomys*, **Lachiver and others**; Suprarenal glands in hibernating *Cricetus*, **Kayser**; Suprarenal-genital relations in *Microtus*, **Delost (1)**.

Other Glands.—Physiology of hibernation gland of hedgehog, **Boerner-Patzelt**; Toxicity of submaxillary glands in *Neomys*, **Pucek (2)**.

Growth, Weight, Mensuration.—Hormone effect on growth, **Huble**; Method for ageing mammals, **Geptner & Turova-Morozova**; Absolute and relative weight of organs in some African mammals, **Frick (1)**; Body weight-organ weight relations, **Frick (2)**; Sex and age differences in anthropoid skulls, **Ashton (1)**; Age changes in basicranial axis of anthropoids, **Ashton (2)**; Weight and measurements of gorillas, **Grzimek (7)**; Ossification pattern in rabbit embryos, **Crary & Sawin**; Craniometric study of wild rabbit growth, **Empel**; Age indices in *Citellus*, **Meier**; Rate of growth in *Mastomys*, **Pirlot (4)**; Growth in relation to age in *Microtus*, **Frank & Zimmermann (2)**; Age-weight changes in *Lagurus*, **Kryltsov**; Differential growth in rat skull, **Moss & Baer**; Sex difference in body weight in mice, **Korkman**; Age characteristics of ear plugs in fin whales, **Nishiwaki (1)**; Age ratios in mink, **Hibbard (2)**; Age determination in *Martes*, **Yurgenson**; Growth rates of leopard seal, **Laws (2)**; Record elephant tusks, **Hill, J. E.**; Record Indian elephant tusks, **Stracey (1)**; Deer heads taken in 1956, **Whitehead (2)**; Record British roe heads, **Whitehead (3)**; Remarkable roe head, **Anon (16)**; Comparative size of roe in prehistoric and historic times, **Boessneck (1)**; Growth analysis in *Odocoileus*, **Mankins & Baker**; Live and dressed weight of American bison, **Halloran (1)**.

Longevity.—Survival curves for mammals in captivity, **Comfort**; Longevity records in New York Zoo, **Manville (1)**; Bat longevity, **Eisentraut (1)**; **Heerdt & Sluiter**; 20 year record for *Myotis*, **Hall, J. S. and others**; Longevity in horseshoe bat, over 18 years recorded, **Dorst (4)**; Life span of golden hamsters, **Grindeland and others**; 6-year old *Apodemus*, **Neuhaus**; Longevity in mongooses, **Hill, W. C.. O. (1)**; Elephant ages, **Bigalke (2)**; *Cervus* tooth wear in relation to age, **Böhme**; Longevity in cow, horse and grey seal, **Matheson**.

Locomotion.—Animals in motion, photographic studies, **Muybridge**; Flight in mammals, **Eisentraut (2)**; Speed of flight in *Miniopterus*, **Constant & Cannonge**.

Hibernation.—Hibernation experiments, **Folk**; Comparative types of hibernation, **Farrand and others**. Serum magnesium levels in hibernation, **Riedesel**; Serum magnesium in hibernating mammals, **Riedesel & Folk**; Studies on hedgehog hibernation, **Zirm**; Hibernating gland of hedgehog, **Boerner-Patzelt**; Hibernating bats and cave micro-climatology, **Nieuwenhoven (1)**; Function of brown fat tissue in hibernation, **Langer-Schierer & Langer**; Lethargic winter condition in marmoset, **Kraft (2)**; Temperature experiments with *Citellus* in summer and winter, **Davidovic**; Hibernation experiments with *Citellus*, **Pengelley & Fisher**; Attempts to induce artificial hibernation in *Citellus*, **Davidovic & Popeskovic**; Experimental hibernation and aestivation in *Perognathus*, **Bartholomew & Cade**; Suprarenal gland and hibernation in *Cricetus*, **Kayser**; Activity of thyroid in hibernating *Eliomys*, **Lachiver and others**; Metabolism of irradiated hibernating *Glis*, **Künkel and others**.

Albinism, Melanism.—Pied shrew, **Harrison, D. L. (4)**; Albinism in *Rhinolophus*, **Dorst (5)**; Partial albinism in *Miniopterus*, **Dorst (2)**; Albinism in *Myotis*, **Metzger**; Partial albinism in *Aplodontia*, **Anderson & Russell**; Albinism in *Sciurus vulgaris*, **Balcells & Palaus**; Partial albinism in golden hamster, **Robinson, R.**; Albinism in African antelopes, **Edmond-Blanc (2)**; Melanism in **Peromyscus, Howard (1)**.

Light and Temperature Studies.—Influence of daylight on activity of varying lemming, **Hansen (4)**; Photoperiodicity in relation to domestic animal breeding, **Hafez**; Development of temperature regulation in young, **Wolburg**; Viability of cells and tissues after freezing, **Parkes and others**; Effectiveness of fur in reducing heat loss in small Alaskan mammals, **Morrison & Tietz**; Body temperature in *Erinaceus*, **Morri-**

son; Body temperature in *Sylvilagus*, **Janes**; Thermoregulation in *Citellus*, **Chugunov and others**; Insulin effect on hamster body temperature, **Holub**; Experimental torpidity in *Napaeozapus*, **Klein, H. G.**; Body temperature studies on *Perognathus*, **Bartholomew & Cade**; Low temperature adaptations in rats, **Sellers**; Body fat production in rats exposed to cold, **Pagé**; Heat insulation of seals, **Irving & Hart**; Thermal regulation in whales, **Kanwisher & Leivestad**; Temperature of camel in relation to water economy, **Schmidt-Nielsen and others**; Apocrine gland number in skin of Rhodesian cattle in relation to heat tolerance, **Walker.**

Pathology.—N. American bats known as rabies carriers, distribution in Mexico, **Malaga Alba & Villa**; Role of brown fat in pathogenesis of rabies in *Tadarida*, **Sulkin**; Leptospirosis in New Zealand hedgehogs, **Webster**; Treatment of epileptic cases in monkeys, **Christoph**; Atrichia in rabbit, **Coaker**; Evolutionary changes in myxomatosis, **Fenner**; Myxomatosis in N. Scotland, **Shanks and others**; Hereditary anaemia in mice, **Hertwig**; Susceptibility of house mice to tularemia, **Tereschenko**; Tularemia in stack-living rodents, **Pomanskaya**; Bombay rats as plague carriers, **Deoras & Tonpi**; Hydrocephalus in *Microtus*, **Stein, G.**; Relation of California rodents to plague, **Murray, K. F. (2)**; **Miles and others**; Susceptibility of bank vole to bovine tuberculosis, **Hauduroy & Bize**; Sarcoptic mange of foxes in USSR, **Chirkova**; Dental caries in Hawaiian dog, **Svihla (1)**; Diseased bones of cave bear, **Drexler**; Fatal epidemic in crabeater seals, **Laws & Taylor**; Fracture and healing of tusk in Indian elephant, **Schulze**; Acetose in ruminants, **Senet**; Lymphangioma in a deer, **Chute & Chamberlain**; Diseases of reindeer, **Seitz (2)**; Diseases and treatment of okapi, **Landsheere**; Porphyria in cattle in Britain, **Amoroso and others**; Deaths in London Zoo 1955 and 1956, **Hill, W. C. O. (4)**; Mortality in Paris Zoo 1956, **Nouvel and others**; Highway mammal mortality in Michigan, **Prychodko (1).**

Transplants and Grafts.—Genes controlling successful transplantation of skin in mice, **Barnes & Krohn**; Rat skin grafts on mice, **Zaalberg and others.**

Laboratory Technique.—UFAW handbook on laboratory animals, **Worden & Lane-Petter**; International committee on laboratory animals, **Lane-Petter**; Safe disposal of small mammal bodies containing radioactive isotopes, **Boursnell & Gleeson-White**; Apparatus for recording total activity of small mammals, **Clarke & Hawkins**; Device for measuring small rodent activity, **Smirnov, P. K. (2)**; Technique for climatological and nutritional studies with ruminants, **Cresswell**; *Macaca nemestrina* as laboratory animal, **Cole, J.**; Wooden boxes for breeding mice, **Bloom and others**; Method for measuring live mice, **Tsurikov**; Effect of relative humidity on rat breeding, **Njaa and others.**

REPRODUCTION AND SEX

General.—Function of scrotum, **Ruibal**; Development of the brood-care instinct, **Portmann**; Parthenogenesis and polyploidy, **Beatty (1)**; Sex ratio factors in *Myotis*, **Smith, E.**; Heterospermic insemination experiments with rabbits, **Beatty (2)**; Prenatal losses in cricetid rodents, **Beer and others**; Genito-suprarenal relations in *Microtus*, **Delost (1)**; Sex ratio in *Microtus*, **Reichstein (1)**; High reproductive potential of *Microtus arvalis*, **Frank (3)**; Assessment of male reproductive development in *Sciurus*, **Hoffman & Kirkpatrick**; Gene-controlled sterility in laboratory *Mastomys*, **Menzies, J. I.**; Pigmented uterine areas in arctic fox, **McEwen & Scott**; Light controlled reproduction in mink, **Khronopulo & Drosdova**; Breeding in common seal, **Venables & Venables**; Twinning in fin whales, **Kimura**; Photoperiodicity in relation to domestic animal breeding, **Hafez**; Artificial insemination techniques for cattle, **Huhn.**

Reproduction in Special Forms.—Common shrew, **Tarkowski**; Rabbit in New Zealand, **Watson, J. S.**; Cottontails in Arizona, **Sowls**; *Funambulus pennanti*, **Banerji**; Beaver reproduction, **Bond, C. F.**; Prairie vole, **Fitch**; Field vole, **Austin**; *Microtus californicus*, **Greenwald (1)**; Harvest mice, **Frank (4)**; *Perognathus*, **Duke**; *Chinchilla*, **Hillemann & Tibbitts (1), (2)**; Fin whale breeding biology, **Zemsky (2)**; Bottle-nosed dolphin, **Tavolga & Essapian**; Fox, **Tembrock (1)**; Arctic fox,

Sokolov, N. N.; Female sex organs in *Hyaena brunnea*, **De Boom**; Sable in Mongolia, **Bayevsky**; Grey seals, **Hewer**; Southern elephant seal, **Laws (1)**; Black-tailed deer, **Golley (1)**.

Ovary and Ovulation Problems.—Ovulation time response to diurnal light cycle, **Braden**; Neo-ovogenesis in adult monkey, **Vermande-van Eck**; Cytology of egg in bats, **Skreb**; Development of egg in *Microtus*, **Bodenheimer & Lasch**; Polarity in whale ovaries, **Laws (3)**; Postconception ovulation in *Cervus*, **Halazon & Buechner**; Possible identical twinning in white-tailed deer, **McCullough**.

Spermatozoa.—Spermatozoa form and function, **Bishop & Austin**; Review of mammalian sperm, **Nath**; Fertilization study, **Austin & Bishop**; Cold storage of sperm relation to sex of progeny, **Chernyak**; Duration of spermatogenesis in mouse, **Oakberg (1), (2), Sirlin and Edwards**; Induction of gynogenesis in mouse by irradiation, **Edwards**; Spermatogenesis in *Dendrohyrax*, **Tuzet and others**; Semen of goat, **Sharma and others**; Boar spermatozoa, **Hancock**; Biochemistry of buffalo semen, **Pal**; Studies on bull spermatozoa, **Hancock & Trevan**; Technique of artificial insemination of cattle, **Huhn**.

Pregnancy and Gestation Periods.—Effect of estrogen on pregnancy in rabbit, **Greenwald (2)**; Unusual pregnancy in *Cavia*, **Heymann**; Histology of vaginal secretion in pregnant *Mus*, **Frangipane**; Method of distinguishing corpora lutea of pregnancy and ovulation in whalebone whales, **Zemsky (1)**; Gestation variation in bank voles, **Steven**; Gestation in *Cavia*, **Goy and others**; Duration of pregnancy in pig, **Joubert & Bonsma**.

Placentation.—Placenta of spotted hyena, **Morton**; Implantation in hamster uterus, **Strauss (1)**.

Parturition and Litter Size.—Birth in *Myotis*, **Goguyer & Gruet**; 13 embryos in *Microtus*, **Reichstein (4)**; Caudal presentation of humpback whale, **Dunstan**; Birth of African elephant, **Poppleton (1), (2)**; Giraffe births in Manchester Zoo, **Iles**; Birth in white-tailed deer, **Haugen & Speake**; Length of umbilical cords, **Starck (2)**.

Hybridisation.—Brown and varying hare crosses, **Grigoryev**; Attempt to cross hare and rabbit, **Adams, C. E.**; Alleged hybridism in U.S.A. *Citellus* refuted, **Hansen (2)**; Attempts to cross *Apodemus sylvaticus* and *A. flavicollis*, **Zimmermann (3)**; Mink and ferret cross, **Rempe**; Report of a fertile female mule, **Baldwin**; Yak-cow hybrid, **Petzsch (2)**; Hybrid Barbary sheep and domestic goat, **Petzsch (4)**.

Intersex.—Hermaphroditism in mouse, **Klein, M.**; Antlered female deer, **Buechner**; Cryptorchid mule deer, **Beauchamp & Jones**; Sex chromatin of bovine freemartin, **Moore, K. L. and others**.

DEVELOPMENT

Parthenogenesis and polyploidy, **Beatty (1)**; Length of embryonic development as index to constitution, **Podoba**; Responses to external influences at different ages, **Emelianov**; Tooth development in *Tupaia*, **Kindahl**; Early embryonic development in *Tatera*, **Andrew**; Ontogeny of physiological regulations in rat, **Adolph**; Embryonic development of *Rupicapra*, **Tratz**; Epidermis and hair canals in sheep foetus, **Lyne (3)**.

EVOLUTION AND GENETICS

Evolution: General.—Possible evolution of mammals from mammal-like reptiles, **Brink (1)**; Mammalian phylogeny, **Patterson**; Possible evolutionary line of lagomorphs, **Wood**; Darwinian selection through tooth wear in cave bears, **Kurten (3)**; Evolution of foot in Equidae, **Gadzhiev & Gadzhiev**; Evolution of trunk in Macrauchenidae, **Rusconi**; Artificial and natural selection in domestic sheep, **Sokolov, I. I. (1)**; Evolution of hair, **Elias & Bortner**; Evolution of scrotum, **Ruibal**; Sperm whale with vestigial hind limbs, **Ogawa & Kamiya**.

Evolution: Primates.—Fossil apes relationship to primitive man, **Nesturkh**; Supposed bone culture of *Australopithecus*, **Dart (2)**; Evolution of man, **Buistrov**; Criticism of Sera's views on lemurian evolution, **Lamberton**.

Mutation and Variability.—Study of mutations, **Nachtsheim**; Colour phases in Finnish squirrels, **Voipio (2)**; Newest

mutations in fox and mink, **Schmidt, F. (2)**; Colour mutation in *Micromys*, **Piechocki**; New colour mutation in *Microtus*, **Reichstein (2)**; Colour mutations in *Microtus arvalis*, **Frank & Zimmermann (1)**; In *Mus*, **Pizarro.**

Genetics: Researches in *Mus*.—Radiation-induced mutations, **Russell & Major**; Genes affecting axial skeleton in *Mus*, **Gruneberg (2)**; Inherited anaemia, **Hertwig**; Selection for sex difference in body weight, **Korkman.**

General.—**Barnes & Krohn, Beck, Chai (1), (2), Deol & Truslove, Dunn (1), (2), Grahn & Hamilton; Grüneberg (1), MacNeil, Matter, Searle & Spearman, Sirlin, Slee, Slizynski, Stein, K. F., Voipio (3), Wallace.**

Genetics: Studies other than *Mus*.—Parthenogenesis and polyploidy, **Beatty (1)**; Genetics of domestic cats, **McCrae**; Cytology of sex-linkage, **Matthey (3)**; Fertile tortoiseshell male cat, **Jude & Searle**; Morphogenetic studies of rabbit —disproportionate size, **Sawin & Crary**; Genetics of ranch mink, **Shackelford.**

ECOLOGY AND HABITS

General.—Ecology in arid zones, **Bodenheimer (1)**; Marine mammal ecology and paleoecology, **Kellogg & Whitmore**; Effect of gophers on fir re-seeding, **Tevis**; Plant dispersal by cuttings by bog lemming, **Connor**; Habitat of Malayan rats, **Harrison, J. L. (2)**; Interspecific conflict between *Mus* and *Peromyscus*, **King, J. A. (2)**; Field guide to British deer, **Page**; Ecology of deer in Bielowicza Reserve, **Bannikov & Lebedeva**; Relation of wild boar, deer, roe and bear to nut harvest in Caucasus, **Chernyavskaya**; Ecological niches of some Californian mammals, **Linsdale.**

Habits of Special Forms.—Winter ecology of varying hare in Finland, **Koskimies**; Beaver ecology, **Yeager & Rutherford**; Fox squirrel in Florida, **Moore, J. C. (1)**; *Sicista* in S. Russia, **Dal & Chugunov**; Black-tailed deer in California, **Taber & Dasmann**; Barren-ground caribou, **Kelsall.**

Food Habits.—Fish-eating bats, **Eisentraut (3)**; Nectar feeding bats in Gold Coast, **Baker & Harris**; Food analysis of Trinidad fruit-eating bats, **Greenhall (3)**; Regularity of hunting pattern in bat, **Hough**; Ant selection by ground pangolin, **Sweeney**; Coprophagy in cottontail, **Geis (2)**; Nut-opening technique in squirrels, **Eibl-Eibesfeldt (3)**; Acorns as food for chipmunks and mice, **Verme**; Food analysis of some economically important Russian rodents, **Sakhno**; Food stocking by *Clethrionomys rutilus*, **Vorontzov**; Coypus washing food, **Ehrlich & Einszporn**; Food study of baleen whales, **Nemoto**; Rhino stance when browsing, **Campbell**; Carnivorous hippopotamuses, **Fooks (2)**; Food analysis of mule deer in California, **Leach & Hiehle**; Carnivorous duiker, **Derivot**; Use of deer antlers to knock down food, **Steinbacher**; Disappearance of shed caribou antlers, **McCabe.**

Predation.—Predator methods, **Einarsen**; Hedgehog's method of killing snake, **Lilley**; Snakes as bat predators, **Hardy, J. D.**; Leptospirosis-infected voles specially subject to hawk predation, **Karaseva and others (2)**; Effect of birds of prey on vole populations in Russia, **Lavrova & Karaseva**; Bear cub taken by eagle, **Nelson, J. N.**; Fox as prey of golden eagle, **Gordon, S.**; Fox food after myxomatosis; Ecological role of wolf, **Murie (2)**; Small rodent prey of fox and marten, **Lockie**; Weasel store of prey in nest boxes, **Zimmermann (4)**; Stoat and weasel populations in rodent infested ricks, **Davis, R. A. (3)**; Polecat killing technique, **Eibl-Eibesfeldt (4)**; Experimental use of food as buffer in cat-rat relationship, **Davis, D. E. (4)**; Prey-play in cats, **Leyhausen**; Hunting accidents to cougars in Utah, **Gashwiler & Robinette**; Red deer hunted by eagle, **Copeman.**

Aquatic Habits.—Small mammal adaptation to salt marsh flooding, **Johnston, R. F.**; First record of anthropoids swimming, **Grzimek (9)**; Swimming ability of squirrel, hare and roe, **Gewalt (2)**; Swimming ability of newborn manatee, **Moore, J. C. (2)**; Limb use in swimming of manatees, **Burton (2)**; Whales entangled in deep sea cables, **Heezen**; Whales restricted to pools in sea-ice, **Taylor (1).**

Fossorial Habits.—Nesting tunnels made by domestic rabbits, **Deutsch**; Are rabbits changing from burrowing

habits, **Burton (4)**; Marmot burrows, **Berendyaev**; Effect of snow cover on vole burrow arrangements, **Bashenina (1)**; Seasonal inactivity of pocket gophers, **Laycock**; Burrowing of naked mole rat, **W. C. O. Hill and others**; *Rhombomys* burrowing system in relation to soil relief, **Naumov & Siroyechkovsky.**

Arboreal Habits.—Tree nesting in *Clethrionomys*, **Grant.**

Flying Habits.—Flight and gliding, **Eisentraut (2).**

Breeding Habits.—Communal nesting in *Peromyscus*, **Hansen (5)**; Duration of muskrat houses, **Nicholson & Davis.**

Miscellaneous Habits.—"Caravan" transport of young in shrews, **Zippelius**; Self-anointing in hedgehogs, **Burton (1)**; photos, **Burton (5)**; Self anointing and general habits of hedgehogs, **Bond, P.**; Sleeping habits of mole, **Burton (3)**; Size of beaver chippings, **Shadle**; "Washing" habit of raccoons, **Gewalt (1)**; Fire-controlling chimpanzees, **Brink (2)**; Dolphins helping sick associates, **Grzimek (6)**; Porpoise carrying shark to surface, **Norris, C. B.**

Activity Rhythms.—Ecological factors influencing activity rhythms of small mammals, **Saint-Girons (2)**; 24-hour activity of short-tailed shrew, **Mann & Stinson**; Feeding flight daily rhythm in *Myotis*, **Nyholm**; Activity rhythm of squirrels, **Burton (6)**; Activity rhythm in *Citellus*, **Ivanov.**

Psychology and Behaviour Studies.—Expression in mammals, **Eibl-Eibesfeldt (5)**; Play in mammals, **Meyer-Holzapfel (1)**; Behavioural changes in National Parks, **Babault**; Response latency tests on monkeys, **Michels**; Colour and form selectivity tests with monkeys, **Rensch (1)**; Right-handedness of chimpanzee, **Maiorov & Firsov**; Fire-manipulating chimpanzees, **Brink (2)**; Behaviour of baboons, **Bolwig**; Different learning ability in rats and mice, **Reetz**; Dog senses and reactions, **Schuller (1)**; Behaviour study of fox, **Tembrock (1)**; Instinct in viverrids and felids, **Dücker**; Cat dominance, **Baron and others**; Prey play in cats, **Leyhausen**; Elephant intelligence, **Rensch (2)**; Music learning ability of elephant, **Reinert**; Fight or flight reactions in bull, **Fraser, A. F. (1)**; Herd bull behaviour study, **Fraser, A. F. (2)**; Udder seeking habits of young ungulates, **Schuller (2)**; Behaviour of cattle twins, **Petersen**; Social behaviour in big game, **Altmann.**

Migrations and Homing.—Rate of migration or expansion, **Kurten (1)**; Dispersal of young moles, **Godfrey (1)**; Bat migrations, **Blackmore (2)**; Homing experiments with bats, **Mueller & Emlen**; Homing of *Myotis* over 270 miles, **Schramm**; Bat movements in Devon, **Anon (13)**; American bats in Iceland, **Gudmundsson (1), (2), (3)**; Homing of chipmunks, **Layne**; Home range and orientation in small rodents, **Lehmann, E. V. (1)**; Homing in water voles, **Best**; Cat's 170 mile walk, **Hammond**; Grey seal movements, **Johnson**; Migration in marine mammals, **Clarke**; Whale marking results in Antarctic 1956/57, **Brown, S. G.**

Home Range and Territory.—Marking behaviour in some carnivores, primates and ungulates, **Fiedler**; Scent marking in marmots, **Koenig**; Movements of beaver in Alaska, **Libby**; Scent-marking in *Arvicola*, **Frank (2)**; Range of *Synaptomys*, **Buckner (1)**; Altitudinal and seasonal migration in moose, **Edwards & Ritcey.**

Population Studies.—Reliability of "100 trap-nights catch" in small mammal population studies, **Turcek (3)**; Faeces counts in population studies, **Riney**: Population size and interspecific differentiation, **Krumbiegel**; Endocrine activity and population density, **Louch**; Statistical study of biological rhythms, **Durup**; Problems in small mammal sampling in U.S.A., **Murray, K. F. (1)**; Small mammal populations in Russian forests, **Zablotskaya**; Small mammal populations of fir plantations of varying ages, **Pospelov**; Changes in bat populations in Limburg caves, **Sluiter & Heerdt (2)**; Population study of small mammals in two Dutch habitats, **Wijngaarden (1)**; Population study of small mammals in Korea, **Jones & Barber**; Hare fluctuations in Denmark, **Andersen**; *Citellus pygmaeus* colonial activity, **Ivanov & Polyakov**; *Apodemus* in Germany, **Lehmann, E. V.**

(2); Dynamic model for vole population fluctuations, **Bodenheimer & Dvoretzky**; Experimental vole population studies, **Bodenheimer** (2); Vole populations controlled by birds of prey, **Lavrova & Karaseva**; Vole plague in Wales, 1956/57, **Cadman**; Absence of voles in Cardiganshire in 1957, **Lewis Jones**; Vole cycles in Denmark, **Pedersen, C.**; *Clethrionomys rufocanus* in Lapland, **Kalela**; Local movements in *Microtus arvalis*, **Wilusz**; *Microtus arvalis* population study in pine plantations, **Stein, G. H. W.** (1); *Microtus arvalis*, **Stein, G. H. W.** (2); Vole population cycles in Holland over 150 years, **Wijngaarden** (2); Population dynamics of muskrat in Czechoslovakia, **Kratochvil**; Rate of recovery of *Meriones* populations after reduction, **Bakeev**; *Meriones* populations in C. Asia in relation to climatic changes, **Gladkina & Polyakov**; Population cyclic changes in murines of Esthonia, **Paaver** (2); Relation of population size in *Mus* to adrenal and reproductive activity, **Christian**; Experimental population growth study in house mice, **Crowcroft & Rowe**; Adrenal weight in population study of rat, **Christian & Davis**; Reduction of rat populations by weather, **Davis, D. E.** (1); Effect of trapping on marten population, **Quick** (1); Marten in Montana, **Hawley & Newby**; Home range of small rodents, **Tupikova and others**; Muridae in Volga floods, **Romanov, G. V.**; Rodent populations of oak woods in Russia, **Petrov & Shmatko**; Mass mortality in nutria population in Poland, environmental factors, **Ehrlich**; Cycles in *Thomomys*, **Aldous**; Population estimation techniques for cottontails, **Crunden & Hendrickson**; Old-field rodent ecology in Georgia, **Gentry & Odum**; 5-year census of Kansas small mammals, **Gier & Bradshaw**; Flooded marsh population study in Connecticut, **Anderson & Shapiro**; Population study and home range of small mammals in Manitoba, **Buckner** (2); Comparative study of two species of *Peromyscus* in Illinois, **Verts**; *Peromyscus* in New Jersey, **Davis, D. E.** (2); Aerial census of gazelles and wolves, **Rakov** (2); Goats in Wales, history and status, **Whitehead** (4); Big game densities in Kenya, **Petrides**; Aerial censusing of caribou, **Watson & Scott**; Deer census by count of roaring stags, **Yanuschko**; Fluctuations in black-tailed deer, **Dasmann**.

Conservation.—Wild life conservation in Kenya, **Anon.** (1); The future of the Serengeti, **Cullen**; Serengeti, **Pearsall**; New game laws for N. Rhodesia, **Ansell** (2); Biological park of Bamako, **Jaeger**; Conserving N. American wild life, **Boucher**; Wild life protection in Argentine, **De La Tour**; Periyar game sanctuary, India, **Wyatt**; Conserving koala bears in Phillip Id., **Anon.** (14); Question of open season extension for humpback whales in Antarctic, **Jonsgard and others**; Indian lion census of 1955, **Wynter-Blyth**; Recovery of sea otter, **Kenyon**; Protection of walrus, **Kleinberg**; Protection of E. Greenland seals, **Rasmussen**; Protection of marine mammals, **Geller**; Indian rhino in Assam, **Talbot** (1); Rhino in Nepal, status and census, **Stracey** (2); Wild camels of Mongolia, status and photos, **Montagu**; World register of Père David's deer, **Tong**; Plight of barren-ground caribou, **Banfield**; Status of European bison, **Zabinski**.

Extermination.—History of extermination of beaver in Switzerland, **Blanchet**; History of the grizzly bear, **McCracken**; History of rhino in Borneo, **Harrisson** (1); Note on probable extinction of bubal, **Panouse**; Reported survival of Syrian wild ass, **Misonne** (1).

Naturalisation.—Naturalisation of fur animals, **Schmidt, F.** (1); Introduced mammals in Estonia, **Ling** (1); Opossum as pest in New Zealand, **Nelson, R.**; Reintroduction of beaver into Switzerland, **Hainard**; Canadian beaver introduced to Ukraine, **Marin**; Muskrat spread and distribution in the Saar, **Husson, R.** (3); Muskrat status in Czechoslovakia, **Turcek** (1); Muskrat in N.E. China, **Shaw**; Introduction of coypus to Britain, **Davis, R. A.** (1); Coypu in Daghestan, **Siroechkovski**; Status of nutria in Florida, **Griffo**; Nutria in Louisiana, **Harris**; Mink in Dorset, **Hemsley**; American mink in Altai, **Ternovsky**; *Nyctereutes* in Poland, **Dehnel**; Raccoon in S.E. Russia, **Rukovsky**; Roe in New York, **Manville** (2); Introduced deer in Australia, **Bentley**; Reindeer in Scotland, **Utsi**; Musk-oxen in Norway, **Prag**.

Domestication.—Eland and buffalo domestication attempts in S. Africa, **Zumpt**; Elephant farm in Congo, **Grzimek** (3).

Economics: General.—Rats as human food, **Gheyara**; Maintenance of sledge dogs, **Taylor (2)**; Deer damage to forestry, **Chard**; Control of deer in Britain, **Fooks (1)**; Elk damage to forestry in Russia, **Dinesman**; Sealing industry off E. Greenland, history and prospects, **Rasmussen**; Oxen as pack and riding animals, **Staffe.**

Economics: Fur and Wool.—Fur animals naturalised, **Schmidt, F. (1)**; New mutations in fox and mink, **Schmidt, F. (2)**; Fur animals of Tasmania, **Guiler (1)**; Economic value of fox in Esthonia, **Ling (3)**; Chinchilla breeding in Germany, **Bickel.**

Economics: Rodent Control.—Damage to agriculture by mammals, and control methods, **Koersveld and others**; 1080 trials in rabbit control, **Wodzicki & Taylor**; Attempts to exterminate rabbits in New Zealand, **Hudson**; Squirrel damage to lac industry in India, **Krishnaswami & Chowhan**; Palm squirrel damage to lac, **Krishnaswami & others**; Poisoning of *Meriones*, **Zakharchenko & Abramov**; Rodent control in Holland, **Anon. (3)**; Successful rat control at Cuxhaven, **Steiniger (2)**; Studies on rat control, **Various**; Decline in rat infestations in Georgia, **Smith, W. W.**; Modern agriculture influence on field rodent populations, **Bocharnikov & Abramov**; Control of field rodents by cultivation methods, **Nikiforov**; Small rodent damage to cedar forests, **Reymers**; Use of mechanised spray, **Surkova & Tzis**; Control of rodents by zinc phosphite, **Bakeev and others**; rodent control with bait from cars, **Abramov & Musatova**; Rodent damage to crops in Rumania, **Hamar**; Control of mice by aerosol of DDT, **Gusev & Kharkova**; Rodent damage to arboriculture and control in Kivu, **Pirlot (1)**; Rodent control in Stavropol area, **Prokofyeva**; Rodent control in plague prevention in Thailand, **Elbel & Thaineua**; Rat problem on Mindanao, **Rabor (1)**; Dispersal of rodents by human transportation, **Baranovskaya**; Toxaphene control of voles, **Heidenreich**; *Microtus agrestis* damage and control, **Mehl**; Toxic control of *Microtus*, **Telle**; Muskrat gassing, **Bruel and others (2)**; Muskrat control, **Bruel and others (3)**; *Arvicola* control, **Bruel and others (1).**

Economics: Whaling.—Report of 8th meeting of International Whaling Commission, **Anon. (4)**; International whaling statistics, 1955, **Jahn and others (1)**; Antarctic whaling season '55–'56 statistics, **Jahn and others (2)**; World catch 1956, **Anon. (5)**; Antarctic whaling 1956/57, **Anon. (6)**; Whale marking in Antarctic 1955/56, **Ruud & Øynes**; Review of whale marking, tests of modified mark, **Chittleborough & Godfrey**; Relation of whales to hydrographic conditions, **Uda & Dairokuno.**

Methods and Technique: General.—Breakback trap adapted to avoid breaking skulls, **Reinwaldt (1)**; Modified live trap with retreat box, **Kinney and others**; New bat-catching methods, **Klemmer**; Live-trapping black bears, **Erickson**; Improved deer capturing device, **Ashcroft & Reese**; Use of faeces counts in ecological studies, **Riney**; Radioactive excretory products used for tracing voles, **Miller**; Method for recording activity of burrowing mammals, **Mayer**; Necessary conditions for breeding wild mice in laboratory, **Smirnov, P. K. (1)**; Woodrats as laboratory animals, **Egoscue (2)**; Skin preparation, **Reinwaldt (3)**; Method for extracting bones from owl pellets, **Becker**; Identification of E. African mammal spoor, **Hesse.**

Methods and Technique: Marking.—Marking techniques, **Taber (2)**; Marking devices for large mammals, **Taber and others**; Automatic banding device, **Romanov, A. N.**; Bat banding injuries, **Hitchcock**; Radio-active bands for bat marking, **Punt & Nieuwenhoven**; Bat ringing in U.S.S.R., **Lavrov**; Failure of ear tags for marking foxes and raccoons, **Lord**; Whale marking in Antarctic 1945 to 1957, **Clarke & Brown.**

DISTRIBUTION AND FAUNAS PALAEARCTIC REGION

Old World, **Haltenorth (3).**

Europe: General.—**Kagelmann**; **Reichstein (3)**; N. Europe, **Krott**; N.W. Europe, **Ijsseling & Scheygrond**; E. Europe, **Zabinski.**

British Isles: General.—**Blackmore (1)**; **Blackmore & Bisserot**; **Chard**; **Church**; **Crowcroft**; **Davis, R. A. (3)**; **Fooks (1)**; **Fraser, F. C. (2)**; **Mammal Society of the British Isles**; **Page**; **Shorten**; **Whitehead (1).**

England.—London area, **Beven; Shipp; Upcott**; E. Sussex, **Conisbee; Loft**; Hampshire, **J. L. Davies (1), Jenkins, D.**; Dorset, **Anon (16), Benham**; Devon, **Hurrell (2)**; Lundy, **Anon (11)**; Essex, **Hobden**; Herts and Bucks, **Hager**; Bedfordshire, **Key**; Suffolk, **Anon (10), Barrington and others**; Yorkshire, **Hazelwood**; Lakeland, **Anon (8), (9), Delap (1), (2), (3)**; Northumberland, **Bilton, Tegner (1)**; Farne Islands, **Hickling, Ogilvie.**

Wales.—**Anon. (12), Cadman, Whitehead (4)**; W. Wales, **Condry; Johnson**; Ramsay Island, **Backhouse & Hewer (2)**; Pembrokeshire, **Backhouse & Hewer (1), Bassindale & Barrett**; Skokholm, **Davis, R. A. (2).**

Scotland.—**Whitehead (2)**; N. Scotland, **Shanks and others**; Dumbartonshire, **Delany**; Jura, W. Scotland, **Mitchell**; Gasker, Hebrides, **Boyd**; Shillay, Hebrides, **Hewer**; Isle of May, **Eggeling.**

Ireland.—**Delap (1).**

Channel Isles.—**Cranbrook.**

France.—**Dorst and others, Saint Girons (2)**; Versailles, **Giban**; Brittany, **Walling**; Ushant, **Roux**; W. France, **Beaucournu**; Central France, **Sluiter & Heerdt (1)**; S. France, **Constant**; Pyrenees, **Couturier**; Corsica, **Kahmann & Haedrich (1), (2), Kahmann & Altner.**

Spain.—**Balcells & Palaus, Bauer (2), Dorst and others, Niethammer, Valverde.**

Portugal.—**Gama.**

Holland.—**Anon. (3), Bemmel, Heerdt & Sluiter, Husson, A. M. (2), Kristensen, Laar, Punt & Nieuwenhoven, Wijngaarden (1), (2), Wijngaarden & Vries**; S. Limburg, **Sluiter & Heerdt (2).**

Germany.—**Haltenorth (1), Havekost, Kahmann (1), Kolb, Lehmann, E. V. (2), Richter, Stein, G. H. W. (2)**; S. Germany, **Sanden-Guja**; S.W. Germany, **König & Epple**; Nordstrand, Germany, **Steiniger (1)**; Black Forest, **Eisentraut (6)**; Saar, **Husson, R. (3)**; Saar and Jura, **Husson & Daum**; Bavaria, **Bothschafter, Müller-Using (3)**; Saxony, **Boback, Meyer, U., Wessel**; N.W. Saxony, **Gerber (1)**; Lower Saxony, **Müller-Using (1).**

Austria.—**Anschau and others; Bauer (1), (3), Psenner (2), (3).**

Czechoslovakia.— **Gaisler & Hanak, Hanak & Hanzak, Janda, Kratochvil, Mottl, Sebek, Turcek (1), Vachold**; Carpathians, **Kowalski.**

Switzerland. — **Bachler, Blanchet, Burckhardt, Hainard.**

Italy.—**Allegranzi & Bartolomei, Tamino**; Romagna, **Zangheri**; Sicily, **Kahmann (2), (3)**; Sardinia, Sicily, **Kahmann & Altner.**

Hungary.—**Kolosvary, Szunyoghy.**

Rumania.—**Hamar, Barbu and others.**

Balkans.—Yugoslavia and Greece, **Lanza (2)**; Bulgaria, **Markov.**

Poland.—**Dehnel, Kowalski and others, Kubik, Mikhalap, Strawinski**; Bukovina, **Gorbik**; Transcarpathia, **Turyanin.**

Denmark.—**Andersen, Pedersen, C., Poulsen.**

Iceland.—**Gudmundsson (1), (2), (3).**

Norway.—**Jonsgard & Høidal, Prag**; North Norway, **Barth.**

Sweden.—**Curry-Lindahl, Reinwaldt (2).**

Finland.—**Koskimies, Voipio (1), (2)**; Lapland, **Kalela.**

Esthonia and Latvia.—**Ling (1), (2), (3), Ling & Paaver, Paaver (1), (2), Paaver & Ling, Poots**; Latvia, **Lapin.**

Asia: General.—**Frechkop (2).**

U.S.S.R.—**Bibikov (2); Gromov (1), Lavrov, Novikov, Tomilin**; Russia, **Dinesman; Karaseva and others (1); Pavlov & Kiris; Petrov & Shmatko; Zablotskaya**; N. Russia, **Parovshchikow**; Vorkuta, N. Russia, **Schaefer**; Archangel region, **Kholostov**; Volga delta, **Romanov, G. V.**; S. E. Russia, **Rukovsky**; Rostov area, **Karasev**; Stavropol, **Kudryashova; Dal & Chugunov**; Ukraine, **Gavrilenko, Migulin, Modin (1), (2), Tatarinov (1)**; Crimea, **Yanushko**; Georgia, **Ekvtimishvili (1); Morgilevskaya, Shidlovski (1), (2), (3), (4)**; Caucasus, **Chernyavskaya**; Pre-Caucasus, **Babenishev**; N. Caucasus,

Kovaleva; Transcaucasus and C. Asia, **Gladkina & Polyakov**; Pre-Caspian, **Dal and others**; Daghestan, **Lavrovski & Kolesnikov**; Kirgizia, **Berendyaev**; **Yanushevich & Kidiraliev**; Uzbekistan, **Bogdanov**; Kazakhstan, **Ivanov**; N. Kazakhstan, **Strautman**; W. Kazakhstan, **Rakov (1)**; C. Kazakhstan, **Rakov (2)**; Transural, **Smirnov, V. S.**; Kungei-Alatan, **Petrov**; C. Asia, **Ismagilov (2)**, **Sludski**; N. Kara-Kum, **Stalmakova**; Altai, **Shaposhnikov (1)**, **Ternovsky**; Tien Shan, **Bibikov & Stogov**, **Ismaghilov (1)**; W. Tian-Shan, **Shaposhnikov (2)**; Yakutia, **Gladkov**; **Tavrovsky & Shitarev**; W. Yakutia, **Kapitonov**; Mongolia, **Bayevsky**, **Montagu**, **Shubin**.

S.W. Asia.—Near East, **Schmökel**; S.E. Turkey and N. Syria, **Misonne (1)**; Israel, **Rauch**, **Petter (2)**, **Zahavi & Wahrman**; Arabia, **Harrison, D. L. (1)**; Iraq, **Hayman (2)**; Iran, **Petter & Mostachfi**; Iran and Irak, **Petter and others**; Afghanistan, **Akhtar**, **Zimmermann (2)**.

China.—**Pang-Chieh**; N.E. China, **Shaw**; Manchuria, **Dulkeit**; Yunnan, **Stroganova**; S. Yunnan, **Sokolov, I. I. (2)**; Korea, **Davis, D. E. (3)**, **Jones & Barber**.

Japan.—**Imaizumi**, **Omura (2)**.

North Africa.—Egypt, **Setzer (1)**, **(3)**, **Wassif**; Libya, **Setzer (2)**; Morocco, **Panouse**; E. Morocco, **Brosset**; Tunisia, **Deleuil**.

ORIENTAL REGION

India.—**Khajuria (2)**, **Krishna & Prakash (1)**, **Krishna and others**; S. India, **Ali & Santapan**; **Subramoniam**; Periyar, **Wyatt**; Rajasthan, **Prakash**; Kathiawar, **Mosse**; Gir Forest, **Talbot (2)**, **Wynter-Blyth**; Darjeeling, **Sen**; Sikkim, **Gupta**; Nepal, **Biswas & Khajuria**, **Stracey (2)**; Himalayas, **Pranavananda (1)**, **(2)**, **Reuben**; Assam, **Khajuria (1)**.

Ceylon.—**Fernando**, **Norris, C. E.**, **Tennekoon**; Jaffna, off Ceylon, **Silva**. **Burma**, **Indochina.**—Burma, **Yin**; Tonkin, **Dandelot**.

Malaya.—**Harrison, J. L. (1)**, **(2)**, **(3)**, **Harrison, J. L. and others**; Singapore, **Hendrickson, J. (1)**.

Indonesia.—Lesser Sunda Is., **Pfeffer**; Java, **Laurie & Hill**, **Soepraptomo**; Borneo, **Harrison (1)**; Sarawak, **Fraser, F. C. (1)**, **Harrison (2)**.

Philippines.—**Rabor (1)**; Luzon, **Rabor (2)**.

AUSTRALASIAN REGION

Australia.—**Bentley**, **Felten (4)**, **Finlayson**, **Ride (1)**, **Troughton (2)**, **(3)**; S. Australia, **Anon. (17)**; W. Australia, **Barker and others**, **Calaby**, **Lundelius**, **Robinson, A.**; Phillip Island, Australia, **Anon. (14)**; Victoria, **McNally**; Tasmania, **Guiler (1)**.

New Guinea, etc.—Papua, **Troughton (1)**; Goodenough Island, **Van Deusen**.

New Zealand.—**Hudson**, **Nelson, R.**, **Riney**, **Watson, J. S.**

ETHIOPIAN REGION

General.—Africa, **Aellen**, **Frechkop (1)**, **Heim de Balsac & Lamotte**, **Petter (1)**.

N.E. Africa.—Sudan, **Butler**, **Sweeney**; Ethiopia, **Starck (1)**; Somalia, **Toschi**.

East Africa.—**Hesse**; Kenya, **Anon. (1)**, **Harrison, D. L. (3)**, **Petrides**; Kenya and Somaliland, **W. C. O. Hill and others**; Tanganyika, **Cullen**, **Heim de Balsac (3)**; Serengeti, Tanganyika, **Pearsall**; Uganda, **Haddow**, **Hayman (1)**; Ruwenzori, **Hayman (3)**; S.W. Uganda, **Milton (1)**.

Rhodesias.—N. Rhodesia, **Ansell (1)**, **(2)**.

Southern Africa.—S. Africa, **Anon (7)**; Transvaal, **Robinson & Mason**; Natal, **Harrison, D. L. (2)**; S.W. Africa, **Bigalke (1)**; **Meschkat**; Angola, **Zukowsky & Haltenorth**.

Mascarenes.—**Vinson**.

Belgian Congo.—**Hayman (3)**, **Pirlot (3)**; E. Belgian Congo, **Pirlot (2)**; Ituri, **Landsheere**; Garamba National Park, **Verschuren**; Kivu, **Heim**, **Pirlot (1)**.

West Africa.—**Booth, A. H.**, **Webb, G. C.**; Spanish Guinea, **Grzimek (9)**; Mt. Cameroon, **Heim de Balsac (2)**; Mt. Cameroon (altitudinal distribution), **Eisentraut (7)**; Nigeria, **Pollard**; E.

Nigeria, **March**; French West Africa, **Dekeyser & Derivot**; French Sudan, **Jaeger, Petter (1)**; Gold Coast, **Baker & Harris, Hayman (3)**; Ivory Coast, **Cachan, Rahm (1), (2)**; French Guinea, **Eisentraut & Knorr**; Senegal, **Cadenat & Paraiso**; Upper Senegal, **Vezia.**

NEARCTIC REGION

General.—N. America, **Cringan, Hagmeier (1), Hall, and others, McCracken.**

Greenland.—Greenland, **Pedersen, A. (2), (4).**

Canada.—**Banfield (1), (2)**; Ungava, **Banfield (3), Eklund**; New Brunswick, **Hagmeier (2)**; Gaspé Island, Quebec, **Morsan**; Newfoundland, **Cameron**; Great Lakes region, **Burt**; Ontario, **De Vos (1), (2), Peterson**; Manitoba, **Buckner (1), (2), Criddle, Foster, Krivda, McCabe**; Churchill, Manitoba, **Smith & Foster**; Alberta, **Webb, R.**; Saskatchewan, **Novakowski**; N. Canada, **Kelsall**; N.W.T., **Ellis**; Perry River, N.W.T., **Hanson and others**; British Columbia, **Edwards & Ritcey, Quick (1)**; Vancouver Island, **Hardy, G. A.**

U.S.A. : General. — Blair, Carter, Jelinek.

Eastern U.S.A.—Schwartz & Odum; New York, **Barbehenn & New; Layne, Manville (2)**; New England, **Grayce (1), (2)**; New Jersey, **Davis, D. E. (2)**; Maryland, **Nicholson & Davis**; Connecticut, **Anderson & Shapiro, Roth (2)**; Virginia, **Holloway, Rageot**; Georgia, **Gentry & Odum, Smith, W. W.**; Florida, **Caldwell and others, Davis, J. A., Davis, W. H. (2), Griffo, Jennings & Layne, Moore, J. C. (1), (2), Rice (1), Sherman**; North Florida, **Starner**; South U.S.A., **Hoffmeister.**

Middle U.S.A.—**Jackson (1)**; Ohio, **DeCoursey, Dexter (1)**; Kentucky, **Barbour, Metzger, Phillips & Mumford**; Tennessee, **Schultz**; Alabama, **Chermock**; Louisiana, **Harris**; Indiana, **Lindsay, Wilson, N.**; Illinois, **Hoffmeister & Mohr, Klimstra, Parmalee, Parmalee & Hoffmeister, Verts**; Michigan, **Golley (2)**; **Prychodko (1)**; Wisconsin, **Doll and others, Jackson (2), Panuska & Wade, Schorger**; Minnesota, **Dickerman & Tester**; Iowa, **Hubbard & Hendrickson, Linder & Hendrickson, Sanderson, G. C.**

Western U.S.A.—N. Dakota, **Hibbard (1)**; S. Dakota, **Findley & Baker, Schantz**; Nebraska, **Jones, J. K. (2), Macdonald & Schultz, Sather**; Kansas, **Brecheisen & Legler, Fitch, Gier & Bradshaw, Hastings, Hershkovitz (2)**; Oklahoma, **Halloran (3)**; Texas, **Eads and others (1), (2), Pettus & Robinson, Stallcup (1), (2)**; Montana, **Hawley & Newby**; Wyoming, **Hansen (2)**; Colorado, **Reed (1), Rice (2), Hay, Yeager & Remington**; New Mexico, **Clothier, DeWitt Ivey, Findley, Findley & Poorbaugh, Holdenried, Mumford**; Arizona, **Cockrum, Halloran (2), Hanson, Justice, Musgrove & Hoffmeister, Reynolds, Sowls, Stager, Wetherill**; Utah, **Egoscue (1), Gashwiler & Robinette**; Idaho, **Hansen (2), Reeves & Williams; Tucker**; Nevada, **Chamberlain**; California, **Bischoff, Boolootian (1), (2), Butterworth, Greenwald (1), Johnston, R. F., Johnston & Rudd, Jones, F. L., Jones and others, Leach & Hiehle, Linsdale, Murray, K. F. (1), (2), Orr, Stager, Taber (1), Taber & Dasmann.**

Alaska.—**Kenyon, Libby, Murie (1), Reed (2), Watson & Scott**; Kodiak Island, **Clark**; Pribilov Is., **Scheffer.**

Mexico.—**Anderson, S., Booth, E. S., Goodwin, Hooper, (2), (3), Huey, Ingles, Koopman, Malaga Alba & Villa, Russell, Stains**; Sinaloa, **Russell & Alcorn**; Guerrero, **Lukens & Davis**; Veracruz, **Dalquest (1)**; Chiapas, **Burnett & Lyman**; Gulf of California, **Gilmore & Ewing.**

NEOTROPICAL REGION

General.—C. & S. America, **Hill, W. C. O. (2), Dalquest (3).**

C. America and West Indies.—C. America, **Hoffmeister**; Honduras, **Handley**; El Salvador, **Felten (1), (2), (3)**; Costa Rica, **Anderson**; Nicaragua, **Goodwin**; Panama, **Hershkovitz (3), Rodaniche**; Bahamas, **Koopman and others**; Trinidad, **Greenhall (1), (2), Twist & Twist, Urich & Wehekind.**

South America.—**Avila-Pires**; Colombia, **Hershkovitz (1)**; Venezuela, **Handley, Mondolfi & Mendez**; Surinam, **Husson, A. M** Brazil, **Carvalho (1),. (1); Vieira**; Amazonia, **Allen & Neill**; Matto Grosso, **Travassos & Travassos**; Acre, Brazil, **Carvalho (2)**; Peru, **Koford,**

Pearson; Argentine, **Arentsen**; **De La Tour, Lagiglia**; Chile, **Gigoux**; **Housse, Mann (1)**.

OCEANS, SEAS AND OCEANIC ISLANDS

Mediterranean, **Bolognari**; Atlantic, **Kirpichnikov**; N. Atlantic and Baltic, **Davies, J. L. (2)**; Western N. Atlantic, **Moore & Wood**; N. Atlantic, **Rasmussen**; E. Canadian waters, **Sergeant & Fisher**; N. Pacific, **Fay**; Japanese seas, **Omura (1), Uda & Dairokuno**; Australian and New Zealand seas, **Davies & Guiler**; Antarctic, **Arsenyev, Ingham, Laws & Taylor, Taylor (1)**; Bellingshausen Sea, **Symons & Weston**; Subantarctic islands, **Paulian (1)**; S. Orkneys, S. Georgia, Falkland Is., **Laws (1)**; Amsterdam and St. Paul Islands, **Paulian (2)**; Heard Island, **Brown, K. G., Gibbney**; Gough Island, **Holdgate**; Caroline atolls, **Marshall**; Galapagos, **Eibl-Eibesfeldt (1), (2)**; Hawaii, **Svihla (1)**; French Frigate Shoals, **Svihla (2)**.

GEOLOGICAL (FOSSIL FAUNAS)

Jurassic.—Switzerland, **Peyer**.

Caenozoic.—Cenozoic stratigraphy, **Kurten (1)**; Methods of dating fossil hominids and pre-hominids, **Oakley**.

Tertiary.—Eurasia, **Ozansoy (1)**; Europe, **Gräf**; Spain, **Castejon**; Switzerland, **Pavoni**; Serbia, **Petronijevic**; Mongolia, **Rozhdestvensky**; Sinkiang, **Chow (2)**; Africa, **Hennig**; Argentine, **Marelli**.

Eocene: Old World.—Spain, **Crusafont Pairo, Crusafont-Pairo & Villalta-Comella**; Germany, **Matthes**; Georgia, **Gabunia**; S. Gobi, **Flerow (2)**; E. Siberia, **Yanovskaya**; Mongolia, **Flerov (1)**; Kwangsi and Yunnan, **Chow (4)**.

Eocene: Old World.—Western U.S.A., **Robinson, P.**; Wyoming, **Kitts (1), Gazin (2)**.

Oligocene: Old World.—France, **Savage**; Belgium, **Misonne (2)**; Germany, **Hrubesch**; Bavaria, **Schalk**; Kansu, **Young & Chow**; Yunnan, **Chow (4)**; Japan, **Minato and others**.

Oligocene: New World.—Patagonia, **Hoffstetter**.

Miocene: Old World.—W. Europe, **Bergounioux & Crouzel**; Spain, **Crusafont Pairo & Truyols Santonja**; Germany, **Hölder**; Bavaria, **Schalk, Obergfell**; Lower Bavaria, **Grimm**; Czechoslovakia, **Zapfe & Hurzeler, Musil (1)**; Ukraine, **Korotkevich**; Georgia, **Burchak-Abramovich & Gabashvili**; Kirghizia, **Alexeeva**; Nanking, **Chow & Chang-Kong**; Japan, **Onodera (2), Shikama**; Morocco, **Ennouchi & Jeannette**; Kenya, **Butler & Hopwood, MacInnes**.

Miocene: New World.—Maryland, **Kellogg**; Florida, **Olsen (1), (2), (3)**; S. Dakota, **MacDonald**; Texas, **Wilson, J. A.**; Colombia, **Fields**.

Pliocene: Old World.—Suffolk, **Spencer**; Austria, **Thenius (1), Zapfe**; Poland, **Stach**; Jugoslavia, **Ciric**; Macedonia, **Risto (1)**; Turkey, **Ozansoy (2), Senyurek**; Ukraine, **Topachevsky (1)**; Shansi, **Chang, Wang**; Yunnan, **Woo**; Africa, **Wells**; Morocco, **Choubert & Ennouchi, Ennouchi (1)**; Algeria, **Arambourg (2)**; Libya, **Petrocchi**.

Pliocene: New World.—Montana, **Konizeski**; Oklahoma, **Kitts (2)**; Kansas, **Hibbard, C. W.**; Catamarca, Argentine, **Cabrera**.

Pleistocene: General.—Bone preservation in alluvium indicating geological age, **Gromov (2)**; Fluorine tests of Pleistocene fossils, **Vlerk**; World, **Charlesworth**; Quaternary Era, text book, **Charlesworth**.

Pleistocene, Old World: Europe.—C. Europe, **Thenius (2)**; Eurasia, **Hancar**; France, **Astre**; Alsace, **Wernert**; Belgium, **Marsden**; Holland, **Kortenbout van der Sluijs; Kruizinga (1), (2), Vlerk**; Italy, **Castiglioni, Riedel, Vialli**; Greece, **Risto (2)**; Germany, **Brunner, Udluft & Jacobshagen**; S. Germany, **Heller, Lehmann, V. (1)**; Bavaria, **Boessneck (2)**; Czechoslovakia, **Musil (2)**; Jugoslavia, **Brodar, Rakovec**; Sweden, **Thorslund**.

Asia.—U.S.S.R., **Gromov (2)**; Russia, **Gromov (4), Vereshchagin & Kolbutov**; Volga–Don watershed, **Gromov (6)**; Ukraine, **Topachevski (2) (3), Karlov**; W. Ukraine, **Tatarinov (2)**; Odessa, **Yatzko**; Apsheron peninsula, **Alekperova**; Tamansk Peninsula, **Vereshchagin (3)**; N. Urals, **Vereshchagin (2)**; Lower Ural, **Gromov (5)**; Caucasus,

Garutt; Transcaucasia, **Burchak-Abramovich**; Samara, **Gromov (3)**; S. Ossetia, **Vereshchagin (1)**; Kazakhstan, **Kozhamkulova**; China, **Anon (18), (19)**, **Pei (1), (2)**, **Young, C.-C.**; Manchuria, **Gordeev & Jernakov**; S. China, **Koenigswald (2)**, **Pei (3)**, **Pei & Woo**, **Vallois**; Choukoutien, **Kurten (2)**; Chekiang, **Pei & Chiu**; Shansi, **Chow (1)**; Shantung, **Hu**; Szechuan, **Chow (3)**; Hupei, **Chia**; Hopei, **Chia & Chai**; Indonesia, **Heekeren**; Java, **Hooijer (1), (2)**, **Koenigswald (1)**; Flores, **Hooijer (3), (4)**.

Africa.—N. Africa, **Arambourg (3)**; Cyrenaica, **Blanc**; Tunisia, **Coque**; Morocco, **Ennouchi (2)**; Tanganyika, **Lehmann, U. (2)**; S. Africa, **Freedman**, **Weinert (2)**; Transvaal, **Dart (1)**, **Ewer (1), (2)**, **Lavocat**, **Weinert (1)**, **Wells & Cooke**; Madagascar, **Piveteau (1), (2)**.

Pleistocene: New World.—Quebec, **Sternberg**; Iowa, **Palmer**; Florida, **Bader**; Nebraska, **Hibbard, C. W.**, **Schultz & Tanner**; Kansas, **Waters**; Texas, **Dalquest (2)**, **James, G. T.**, **Quinn, Tamsitt**; New Mexico, **Murray, K. F. (3)**; Yucatan, **Ray**; Panama, **Gazin (1)**; Venezuela, **van Frank**; Brazil, **Simpson & Couto**; Argentine, **Reig (1), (2)**.

III SYSTEMATIC INDEX

In the arrangement of the Orders of the Mammalia, Simpson's classification and terminology in his "The Principles of Classification and a Classification of Mammalia," 1945, have been adopted.

ORDER MONOTREMATA

TACHYGLOSSIDAE

Tachyglossus aculeatus photos in captivity, **Grzimek (1)**.

ORNITHORHYNCHIDAE

Ornithorhynchus anatinus photo in captivity, **Grzimek (1)**.

†ORDER MULTITUBERCULATA

†PLAGIAULACIDAE

†*Plagiaulax* redescription of holotype after preparation, no marsupial affinities, **Ride (2)**.

? *Incertae sedis.*

†MICROCLEPTIDAE

†*Thomasia* teeth from Jurassic of Switzerland, comparison with *Microcleptes*, **Peyer.**

†ORDER TRICONODONTA

Triconodont teeth from Jurassic of Switzerland, **Peyer.**

ORDER MARSUPIALIA

Glucuronuria in marsupials, **Hinks & Bolliger.**

General account of kangaroos, **Troughton (3)**.

DIDELPHIDAE

Chironectes minimus suspected on Trinidad, **Greenhall (2)**.

Didelphis marsupialis in U.S.A., general account, photos, **Carter**; *D. m. virginiana* biology and reproduction, **Burns & Burns.**

†*Zygolestes paranensis* Amegh. transferred from Coenolestidae to Didelphidae, as valid genus and species, *Z. entrerrianus* a *Philander*, **Reig (1)**.

DASYURIDAE

Dasyurid range extensions in W. Australia, **Lundelius.**

PERAMELIDAE

Peramelid range extensions in W. Australia, **Lundelius.**

Perameles nasuta development and replacement of hair, **Lyne (2)**.

PHALANGERIDAE

Phalangerid range extensions in W. Australia, **Lundelius.**

Phascolarctos cinereus conservation, **Anon. (14)**; transplanting technique, **Anon. (17)**; ecology and reproduction on French Island, Victoria, **McNally.**

Trichosuros vulpecula as pest in New Zealand, control measures, **Nelson, R.**

Wyulda squamicaudata rediscovery in W. Australia, 3rd specimen with pouch young described in detail, measurements, field notes, **Calaby.**

PHASCOLOMIDAE

Phascolomys rearing and habits in captivity, **Fleay.**

MACROPODIDAE

Macropodid range extensions in W. Australia, **Lundelius.**

Stubbs' early kangaroo portrait, **Lysaght.**

Bettongia penicillata francisca St. Francis Island, Nuyt's Archipelago, S. Australia, *B. p. anhydra* near McEwin Hills, Lake Mackay area, C. Australia, approx. 22° 2′ S., 129° 47′ E., **subspp. nov.** p. 552, **Finlayson.**

Caloprymnus campestris recorded in W. Australia from skeletal remains, **Lundelius.**

Dorcopsis atrata **sp. nov.** "Top Camp," E. slopes of Goodenough Island, D'Entrecasteaux Group, Papua, 1600 metres, p. 5, **Van Deusen.**

Potorous tridactylus marking results, longevity records, **Guiler (2).**

Protemnodon parma redescribed, list of known material, type locality, relation to other species, generic characters, probably now extinct, **Ride (1).**

Setonix relationships, **Ride (1);** *S. brachyurus* discovery of mainland colony in W. Australia, **Barker and others.**

Thylogale generic characters, **Ride (1).**

Wallabia review of species and their history, *W. canguru* Captain Cook's kangaroo, **Troughton (2).**

ORDER INSECTIVORA

Review of behaviour of Insectivora, **Herter.**

Olfactory organs in Insectivora, comparative study, **Ganeshina and others.**

Occurrence of naso-frontal foramina in shrews, **Landry (4).**

Notes on Spanish insectivores, **Niethammer.**

Insectivora of Bulgaria, **Markov.**

Insectivora of Egypt, key and descriptions, **Setzer (1).**

TENRECIDAE

†*Erythrozootes* **gen. nov.** for type species *E. chamerpes* **sp. nov.** Miocene, Koru, Kenya, p. 24, **Butler & Hopwood.**

†*Geogale aletris* **sp. nov.** Miocene, Rusinga Island, Kenya, p. 17, **Butler & Hopwood.**

†*Protenrec* **gen. nov.** for type species *P. tricuspis* **sp. nov.** Miocene, Songhor, W. Kenya, p. 21, **Butler & Hopwood.**

POTAMOGALIDAE

Characters and phylogeny of Potamogalinae, **Frechkop (1).**

Micropotamogale lamottei dental characters, **Frechkop (1);** comparative study of caudal vertebrae, **Heim de Balsac (1).**

Potamogale velox comparative study of caudal vertebrae, **Heim de Balsac (1);** *P. v., P. ruwenzorii,* characters and phylogeny, **Frechkop (1).**

CHRYSOCHLORIDAE

Chrysochloris asiatica comparative study of embryonic skull, taxonomic conclusions, **Simonetta (2).**

†*Prochrysochloris* **gen. nov.** for type species *P. miocaenicus* **sp. nov.** Miocene, Songhor, W. Kenya, p. 11, **Butler & Hopwood.**

ERINACEIDAE

Erinaceus europaeus self-anointing described and illustrated, **Burton (1);** self anointing, photos, **Burton (5);** general habits, voice and self anointing, **Bond, P.;** studies on hibernation, **Zirm;** physiology of hibernating gland, **Boerner-Patzelt;** body temperature studies, **Morrison;** biology and food analysis in S. Russia, **Kudryashova;** road mortality index, **J. L. Davies (1);** midwinter activity, **Müller-Using (2);** kills snake for food, **Lilley;** carotid sinus complex, **Adams, W. E. (1);** placenta study, **Morris, B.;** in New Zealand, susceptibility to *Leptospira* infection, **Webster;** *E. roumanicus* spatial orientation experiments, **Dylewska.**

Hemiechinus auritus biology and food analysis in S. Russia, **Kudryashova;** biology in relation to leptospiral infection, **Bibikov (1);** biology in Ukraine,

Modin (2); *H. a. collaris* food preferences, **Krishna & Prakash** (2); *H. a. libycus* valid race, *H. a. metwallyi* **subsp. nov.** Tell Basta, Zagazig, Sharqiya Prov., Egypt, p. 6, **Setzer** (1).

Paraechinus deserti wassifi **subsp. nov.** 2 km. W. El Birigat, Kom Hamada, Tahreer Prov., Egypt, p. 10, **Setzer** (1).

MACROSCELIDIDAE

Petrodromus tetradactylus robustus recorded from N. Rhodesia, *P. t. venustus* range extension, *P. t. occidentalis* type locality restriction, **Ansell** (1).

†*Rhynchocyon clarki* **sp. nov.** Miocene' Songhor, W. Kenya, p. 4, **Butler & Hopwood.**

SORICIDAE

Review of present day knowledge of shrews of the world, **Pruitt** (1).

Biology of British shrews, **Crowcroft.**

Zone X of suprarenal in shrews, **Delost** (2).

Taxonomic notes on E. African shrews, **Heim de Balsac** (3).

Review of relationships of African Soricidae, **Heim de Balsac & Lamotte.**

Blarina brevicauda food consumption and body weight, **Morrison and others;** appetite in captivity, **Phillips;** *B. b. manitobensis* range extension in Manitoba, **Krioda;** *B. b. talpoides* activity rhythm study, **Mann & Stinson.**

Crocidura lasiura fused unicuspids, **Jones, J. K.** (1); *C. leucodon* " caravan " transport of young, **Zippelius;** *C. luna* first record for N. Rhodesia, **Ansell** (1); *C. martiensseni, C. gracilipes, C. monax, C. fumosa* subsp., *C. hildegardeae* notes on Kilimanjaro specimens, *C. allex zinki* **subsp. nov.** Kilimanjaro, 3500 m., p. 151, **Heim de Balsac** (3); *C. occidentalis* range limits, *C.* (*poensis ?*) *nigeriae* distinct from *occidentalis,* distinctive characters and range, *C. o. calabarensis* Sanderson synonym of *C. poensis pamela* Dollman, *C. attila* reported from Mt. Cameroon, *C. dolichura* Peters new material from Mt. Cameroon, *C. muricauda* Miller a western race, *C. eisentrauti* **sp. nov.** 2900 metres, Johann-Albrecht-Hütte, above Buea, Mt. Cameroon, p. 616, **Heim de Balsac** (2); *C. olivieri* taxonomic status, p. 13, **Setzer** (1); supernumerary molar tooth, **Setzer** (4).

†*Crocidura* sp. from Miocene, Kenya, **Butler & Hopwood.**

Myosorex skull kinetic joints, morphological significance, **Simonetta** (1); *M. blarina zinki* additional taxonomic notes, generic characters, **Heim de Balsac** (3); *M. preussi* type locality correction, **Heim de Balsac** (2).

Neomys winter skull changes, **Pucek** (1); *N. fodiens* population changes, **Sauden-Guja;** toxicity of submaxillary glands, **Pucek** (2); seasonal changes in thyroid, **Dzierzykraj-Rogalska.**

Sorex winter skull changes, **Pucek** (1); *S. alpinus* habitat and status in Bavaria, **Bothschafter;** *S. araneus* study of reproduction in natural conditions, **Tarkowski;** chromosome polymorphism, **Ford and others;** pied specimen, **Harrison, D. L.** (4); *S. a. castaneus* chromosome variation, **Ford & Hamerton;** *S. cinereus* food consumption and body weight, **Morrison and others;** population peak in N. Ontario, **De Vos** (2); *S. c. ohioensis* additional records, **Dexter** (1); *S. dispar* first record Virginia, **Holloway;** *S. longirostris eionis* **subsp. nov.** Homosassa Springs, Citrus County, Florida, p. 3, **Davis, J. A.;** *S. minutus minutus* seasonal changes in brain, **Cabon;** *S. nanus* range extension and second New Mexico record, **Findley & Poorbaugh;** **Clothier;** *S. palustris* recorded from Churchill, Manitoba, **Smith & Foster;** *S. raddei* winter breeding, **Strokov;** *S. tundrensis* tooth reduction, **Pruitt** (2); *S. tsherskii* daily activity and feeding data, **Blagosklonov;** *S. vagrans halicoetes* breeding study on salt marshes, **Johnston & Rudd;** *S. v. monticola* reported in error (1953) from S. Dakota, now identified as *S. nanus,* first State record, **Findley & Baker.**

Soriculus nigrescens centralis altitudinal record in Nepal, **Biswas & Khajuria.**

Suncus etruscus habits in captivity, **Saint Girons** (1); *S. lixus gratulus* note on occurrence in N. Rhodesia, **Ansell** (1).

Sylvisorex angolensis recorded from N. Rhodesia, **Ansell (1)**; *S. granti* first record Kilimanjaro, "*S.*" *preussi* Matschie a *Myosorex*, **Heim de Balsac (3)**; *S. morio* study of series from Mt. Cameroon, skin and skull characters, range, *S. johnstoni*, *S. ollula* range in Cameroons, **Heim de Balsac (2)**; "*S.*" *preussi* Matschie a *Myosorex*, original locality at 2900 metres on Mt. Cameroon, not 900 m., **Heim de Balsac (2)**.

TALPIDAE

Galemys pyrenaicus sexual dimorphism of pelvic girdle, **Peyre**.

†*Geomana* gen. nov. for type species *G. adami* **sp. nov.** Pleistocene, Gossweinstein, Upper Franconia, Germany, p. 367, **Brunner**.

Talpa skull kinetic joints, morphological significance, **Simonetta (1)**; *T. europaea* age at dispersal of young, **Godfrey (1)**; observations on fighting, **Godfrey (2)**; sleeping position, **Burton (3)**; evolution of cartilage of Meckel, **Friant (4)**; colonisation of Nordstrand island, **Steiniger (1)**; notes on habits in Denmark, **Poulsen**.

ORDER CHIROPTERA

Biology of bats, **Eisentraut (4)**.

Bat age, **Eisentraut (1)**.

Cave bats of French Guinea, new records, **Eisentraut & Knorr**.

Hair structure as generic character in bats, **Benedict**.

Cytology of egg in some bats, **Skreb**.

Bats of Garamba, N.E. Congo, detailed study, **Verschuren**.

Popular account of Malayan bats, with key to groups, **Harrison, J. L. (1)**.

SUBORDER MEGACHIROPTERA
PTEROPIDAE

Epomophorus gambianus as nectar feeder in Ghana, photos, **Baker & Harris**.

Hypsignathus monstrosus recorded from N. Rhodesia, **Ansell (1)**.

Rousettus aegyptiacus leachii recorded from N. Rhodesia, **Ansell (1)**; *R. smithi* first record French Guinea, **Eisentraut & Knorr**.

Nanonycteris veldkampii nectar feeding in Ghana, photos, **Baker & Harris**.

SUBORDER MICROCHIROPTERA

Bat migrations, **Blackmore (2)**.

New bat-catching methods, **Klemmer**.

Short review of bat ringing, **Wallin**.

Use of radio-active bands for bat marking, results in Holland, **Punt & Nieuwenhoven**.

Bat ringing results in Holland, 1956, longevity records, **Heerdt & Sluiter**.

Decline in cave bat populations in S. Limburg, 1942 to 1957, causes include disturbance in bat banding, **Sluiter & Heerdt (2)**.

Injuries caused by bird bands on bats, **Hitchcock**.

Bat ringing results in Poland, **Kowalski and others**.

Bat ringing results in USSR, **Lavrov**.

Brain of bats, **Schneider (1), (2), (3)**.

Endocranial casts of fossil microchiroptera, comparison with recent species, **Dechaseaux**.

Echolocation in E. African bats, **Kulzer**.

Homing experiments with bats **Mueller & Emlen**.

British bats, short account, **Black more (1)**.

Key to Central European bats, **Eisentraut (4)**.

Bats of caves of Central France, **Sluiter & Heerdt (1)**.

Bats of mines in Saarland and French Jura, **Husson & Daum**.

Ecology of hibernating bats in Limburg caves, **Nieuwenhoven (1)**.

Cave erosion caused by hibernating bats, **Nieuwenhoven (2)**.

Notes on Spanish bats, **Bauer (2)**.

Measurements and weights of some German bats, **Havekost**.

Bats of N.W. Saxony, **Gerber (1)**.

Miocene bat, probably *Rhinolophus* from Germany, **Hölder**.

Bats of Czechoslovak caves, **Vachold**.

Bats of Esthonia, **Ling (2)**.

Overwintering bats in Esthonia, **Poots**.

Bat hibernation in Uzbekistan, **Bogdanov.**

Notes on Rajasthan bats, **Krishna and others.**

Bats of E. Morocco, **Brosset.**

Bat records from Indiana, **Lindsay.**

Rabies-carrying N. American bats found in Mexico, **Malaga Alba & Villa.**

Bats of Guerrero, Mexico, **Lukens & Davis.**

Bahaman bats, **Koopman and others.**

List of Trinidad bats, **Greenhall (1).**

Field notes on Trinidad bats, **Urich & Wehekind.**

Bats of El Salvador, key and descriptions, **Felten (1).**

RHINOPOMIDAE

Rhinopoma hardwickei seianum, *R. microphyllum* occurrence in Afghanistan, **Zimmermann (2)**; *R. kinneari* unusual reaction to captures, **Prakash & Sharma.**

EMBALLONURIDAE

Balantiopteryx plicata from San Luis Potosi, northward range extension in Mexico, **Koopman.**

Rhynchiscus naso habitat and habits in Veracruz, Mexico, **Dalquest (1).**

†*Saccolaimus incognita* **sp. nov.** Miocene, Koru, Kenya, p. 29, **Butler & Hopwood.**

Taphozous mauritianus recorded from N. Rhodesia, **Ansell (1)**; *T. nudiventris* first record Belgian Congo, **Verschuren.**

NOCTILIONIDAE

Noctilio leporinus fishing adaptations, methods, photos, **Eisentraut (3).**

NYCTERIDAE

Nycteris aurita a race of *N. hispida*, intergrades in Tanganyika, **Harrison, D. L. (2)**; *N. gambiensis*, *N. aethiopica* new from French Guinea, **Eisentraut & Knorr**; *N. luteola* first record Belgian Congo, *N. nana tristis* synonym of *N. nana*, *N. pallida* synonym of *N. hispida*, **Verschuren**; *N. woodi* correction of type locality, **Ansell (1).**

MEGADERMATIDAE

Megadermidae gen. and sp. indet. Miocene, Kenya, descr. figs., **Butler & Hopwood.**

Cardioderma cor convergence in type of echolocation, **Möhres & Kulzer.**

Macroderma gigas note on occurrence in N.W. Australia, **Robinson, A.**; range extension in W. Australia, **Lundelius.**

RHINOLOPHIDAE

Rhinolophus alcyone alcyone first record Belgian Congo, **Verschuren**; *R. blasii* recorded from Petala Island, Greece, **Lanza (2)**; *R. b. empusa* first record Belgian Congo, **Hayman (3)**; *R. euryale* notes on status in W. France, **Beaucournu**; complete albinism, **Dorst (5)**; *R. ferrumequinum* review of banding in Devon, **Anon. (13)**; longevity of over 18 years, **Dorst (4)**; in Czechoslovakia, distribution problems, **Sebek**; *R. maclaudi* additional specimens, *R. foxi*, *R. landeri* subsp., *R. denti* subsp. new to French Guinea, measurements, **Eisentraut & Knorr**; *R. ruwenzorii* first record Uganda (Ruwenzori), measurements, **Hayman (3)**; *R. simulator* recorded from S.W. Tanganyika, p. 197, **Aellen.**

HIPPOSIDERIDAE

Asellia tridens tridens, *A. t. murraiana* comparative characters, distribution in Arabia, possible seasonal migration, **Harrison, D. L. (1).**

Hipposideros abae, *H. caffer* subsp., data on French Guinea specimens, *H. jonesi* first record French Guinea, measurements of large series, **Eisentraut & Knorr**; *H. beatus maximus* **subsp. nov.** head of R. Pidigala-Nord, Parc National de la Garamba, N.E. Belgian Congo, p. 365, **Verschuren.**

Triaenops persicus doubtfully African, p. 199, **Aellen.**

PHYLLOSTOMATIDAE

Anoura geoffroyi lasiopyga range extensions in Mexico, first record Costa Rica, **Anderson, S.**

Artibeus food analysis in Trinidad, **Greenhall (3)**; *A. jamaicensis*, *A. lituratus* comparative external and cranial characters, *A. l. palmarum*, *A. cinereus aztecus* first records, *A. nanus* second record Guerrero, **Lukens & Davis.**

Carollia perspicillata food analysis in Trinidad, **Greenhall (3)**; *C. subrufa* first record Guerrero, **Lukens & Davis.**

Choeronycteris mexicana first New Mexico record, **Findley, J. S.**; first record in Guerrero, **Lukens & Davis.**

Erophylla sezekorni planifrons range extension in Bahamas, **Koopman and others.**

Leptonycteris review, *L. nivalis sanborni* **subsp. nov.** Miller Canyon, Huachuca Mts., 10 m. S.S.E. Fort Huachuca, Cochise County, Arizona, p. 456, **Hoffmeister**; *L. n. longala* **subsp. nov.** 12 miles S. and 2 miles E. of Arteaga, 7500 ft., Coahuila, Mexico, p. 355, **Stains.**

Macrophyllum macrophyllum first records in Venezuela and Honduras, **Handley.**

Macrotus mexicanus mexicanus range extension in Mexico, **Lukens & Davis**; *M. m. bulleri* range extension in Mexico, **Malaga Alba & Villa**; *M. waterhousii compressus* range extension in Bahamas, **Koopman and others.**

Micronycteris megalotis mexicana first record Guerrero, **Lukens & Davis.**

Mimon bennetti, *M. cozumelae* characters and distribution, **Dalquest (3).**

Mormoops Leach 1821, with *M. blainvillei* Leach 1821, both placed on Official List, **Opinion 462.**

Mormops Cuvier 1829 placed on Official Index of Rejected Names, **Opinion 462.**

Phyllonycteris poeyi as regular snake prey in Cuban cave, **Hardy, J. D.**

Sturnira ludovici first record Guerrero, **Lukens & Davis.**

Tonatia amblyotis milk dentition, **Dorst (3).**

DESMODONTIDAE

Diphylla ecaudata range extension in Mexico, **Koopman.**

NATALIDAE

Natalus mexicanus in El Salvador, notes and measurements, **Felten (2)**; first record Guerrero, **Lukens & Davis.**

Natalus (*Chilonatalus*) *tumidifrons* former range extension in Bahamas, **Koopman and others.**

Natalus (*Nyctiellus*) *epidus* range extension in Bahamas, **Koopman and others.**

VESPERTILIONIDAE

An unnamed new Indian vespertilionid, **Khajuria (2).**

Barbastella barbastellus occurrence in Brittany, **Walling**; recorded from Sicily, **Kahmann (2).**

Corynorhinus rafinesquii, *C. townsendii virginianus* Kentucky records, **Barbour.**

Dasypterus ega xanthinus first record Guerrero, **Lukens & Davis.**

Eptesicus faradjius Allen synonym of *E. rendalli* Thomas, **Verschuren**; *E. fuscus* status in Bahamas, **Koopman and others**; *E. f. pallidus* northern range extension in Saskatchewan, **Novakowski**; *E. nilssoni nilssoni* first record from Yugoslavia, **Lanza (2)**; *E. serotinus* first record in Rumania, **Barbu and others.**

Euderma maculata first Idaho record, **Tucker**; seventh California and second Arizona records, **Stager.**

Glauconycteris variegata papilio recorded from N. Rhodesia, **Ansell (1).**

Idionycteris phyllotis taken in Arizona, first U.S. record of the genus, **Cockrum.**

Kerivoula cuprosa first Kenya record, **Harrison, D. L. (3).**

Laephotis wintoni angolensis first record Belgian Congo, measurements, **Hayman (3)**; measurements of N. Rhodesia specimens, **Ansell (1).**

Lasiurus borealis second New Brunswick record, northern range extension, **Hagmeier (2)**; taxonomy in W. Indies, *L. b. minor* records from Bahamas, **Koopman and others**; *L. cinereus cinereus* Kentucky records, **Barbour**; Texas records, **Eads and others (1)**; found in Iceland, first bat record, **Gudmundsson (1)**; second find in Iceland, other American bat records, **Gudmundsson (3)**; *L. seminolus* valid species distinct from *L. borealis*, **Davis, W. H. (1).**

Miniopterus australis shortridgei **nom. nov.** for *M. a. minor* Laurie & Hill,

1954 (*nec* M. minor Peters 1867) p. 128, **Laurie & Hill**; *M. rufus* Sanborn synonym of *M. natalensis arenarius* Heller p. 209, **Aellen**; *M. schreibersi* status, numbers and cave habitats in S. France, **Constant**; timed flight speed, **Constant & Cannonge**; partial albinism, **Dorst** (2).

Myotis 20 year longevity record, tooth wear not valid criterion of age, **Hall, J. S. and others**; *M. austroriparius* first Kentucky record, **Phillips & Mumford**; biology and ecology in Florida, **Rice** (1); *M. bechsteini* in Britain, photos, **Blackmore & Bisserot**; distribution and biology in Czechoslovakia, **Hanak & Hanzak**; *M. dasycneme* first Austrian record, **Bauer** (1); *M. emarginatus* birth photographed, growth of young, **Goguyer & Gruet**; new records in Austria, status, characters, habitat, **Bauer** (3); recorded from Black Forest, **Eisentraut** (6); recorded from S.W. Germany, **König & Epple**; *M. keenii septentrionalis* first record from Saskatchewan, **Novakowski**; *M. lucifugus lucifugus* study of sex ratio factors, **Smith, E.**; relation of mothers and young, **Roth** (1); homing over 270 miles, **Schramm**; regularity of hunting pattern, **Hough**; ? *M. l.* found in Iceland, second bat record, **Gudmundsson** (2); *M. myotis* in Britain, photos, **Blackmore & Bisserot**; records in Dorset, **Benham**; study of large breeding colony, **Kolb**; *M. mystacinus* daily rhythm of feeding flights, **Nyholm**; *M. nattereri* new records for Steiermark, Austria, **Anschau and others**; *M. occultus*, *M. yumanensis* breeding records in New Mexico, **Mumford**; *M. oxygnathus* in Czechoslovakia, measurements compared with *M. myotis*, **Gaisler & Hanak**; *M. o.*, *M. capaccinii* recorded from Petala Island, Greece, **Lanza** (2); *M. sodalis* first Florida record, **Jennings & Layne**; partial albinism, **Metzger**; *M. thysanodes* distribution and status in California, **Orr**; *M. velifer* moult and pelage fading, **Constantine**.

Nyctalus leisleri in Britain, photos, **Blackmore & Bisserot**; *N. noctula* distribution on Corsica, Sardinia and Sicily, **Kahmann & Altner**; *N. stenopterus* breeding colony observations in Singapore, possible cause of pelage change, **Hendrickson, J.** (1).

Nycticeius (*Scotoecus*) *albofuscus woodi* first record Belgian Congo, **Hayman** (3).

Otonycteris hemprichi first record Tunisia, **Deleuil**.

Pipistrellus kuhli buccal pad histology, probably secondary male sexual character, found in other bats, **Lanza** (1); light phase in one colony in N. Rhodesia, **Ansell** (1); *P. pipistrellus* times of emergence, **Church**; *P. savii* incorrectly reported from Germany, **Richter**; *P. subflavus floridanus* **subsp. nov.** Homosassa Springs, head of Homosassa River, Citrus County, Florida, p. 213, **Davis, W. H.** (2).

Pipistrellus (*Pipistrellus*) *permixtus* **sp. nov.** Dar es Salaam, Tanganyika, p. 200, key to related African species, **Aellen**.

Pizonyx vivesi fishing adaptations, **Eisentraut** (3).

Plecotus auritus hispanicus **subsp. nov.** Lagunilla, Bejar, Spain, p. 312, **Bauer** (2); *P. auritus wardi* occurrence in Afghanistan, **Zimmermann** (2).

Rhogeessa parvula tumida in El Salvador, notes and measurements, **Felten** (2).

Scotophilus gigas first record Belgian Congo, **Hayman** (3).

Vespertilio, validation of *murinus* Linn. 1758 as type species, rejection of *discolor* (Natterer Ms.) Kuhl 1817, **Hemming**.

MOLOSSIDAE

Molossidae of El Salvador, taxonomy and biology, **Felten** (2).

Eumops perotis californicus second Texas record, **Eads and others** (1).

Mops angolensis niveiventer milk dentition variation, **Dorst** (1).

Otomops martiensseni icarus systematic notes, study of gular sac, **Harrison, D. L.** (2).

Tadarida brasiliensis moult and pelage feeding, taxonomic inferences, **Constantine**; *T. b. bahamensis* range extension in Bahamas, **Koopman and others**; *T. b. mexicana* experimental inoculation with rabies virus, role of

brown fat in parthogenesis, **Sulkin and others**; distribution, ecology, parasites, banding data, in Texas, **Eads and others (2)**.

Tadarida (*Chaerephon*) *major* first record Gold Coast, **Hayman (3)**.

Tadarida (*Tadarida*) *bocagei*, *T.* (*T.*) *fulminans* recorded from N. Rhodesia, **Ansell (1)**; *T.* (*T.*) *fulminans* first records for Belgian Congo and N. Rhodesia, **Hayman (3)**.

ORDER PRIMATES

Primates of the world, illustrated account, **Sanderson, I. T.**

Colour and form selection tests with monkeys, **Rensch (1)**.

Snake fear in monkeys, **Gerber (2)**.

Quantitative methods in primate evolution studies, **Ashton (3)**.

Cranial suture closing in relation to age in primates, **Chopra**.

Occipital region of primate brain, **Friant (3)**.

Heart structure in primates, **Bortolami & Callegari**.

Comparative osteology, especially pelvis, of catarrhine primates, **Rickenmann**.

Statistical analysis of teeth measurements in physical anthropology, **Ashton and others (2)**.

"Abominable snowman" footprints commentary, **Pranavananda (2)**.

Abominable snowman comments, **Reuben**.

Text book of primate palaeontology, **Piveteau (3)**.

†"*Almogaver condali*" Crusafont-Pairo and Villalta-Comella, 1954, not a primate but a condylarth, **Crusafont-Pairo & Villalta-Comella**.

Suborder Prosimii

Hypothalamus of Prosimii, **Feremutsch**.

Tupaiidae

Tupaia affinities as shown by skull, **Saban (1)**; comparative study of skull characters and affinities, **Saban (2)**; *T. glis* habits and photos in captivity, **Hofer (1)**; *T. javanica* tooth development study, **Kindahl**.

†Adapidae

†*Notharctus* Eocene, Western U.S.A., statistical study and revision, **Robinson, P.**

Lemuridae

Criticism of Sera's views on evolution of lemuriens, fossil and recent, **Lamberton**.

†*Archaeolemur majori* endocranial cast, **Piveteau (2)**.

†*Hadropithecus stenognathus* endocranial cast, **Piveteau (2)**.

Lemur electrocardiograms, **Salles & Meyer**.

Lorisidae

Galago s. senegalensis breeding cycle data, **Butler**.

Loris tardigradus study of habits in captivity, vocal sounds, **Subramoniam**; muscles of hand, **Kanagasuntheram & Jayawardene**; *L. t. lydekkerianus* skull development, **Ramaswami**.

Perodicticus potto habits in captivity, climbing ability, photos, **Hofer (2)**.

Suborder Anthropoidea

Cebidae

Maxillary nerve in Ceboidea, **Oxnard**.

Primates of Dutch Guiana, key to species, taxonomic and biological notes, **Husson, A. M. (1)**.

Survey of Panama primates for yellow fever reactions, **Rodaniche**.

Effect of cold spell on Amazonian monkeys, **Mann (2)**.

Alouatta nigerrima unusual case of malocclusion, **Della Serra**; *A. palliata pigra* range extension in Chiapas, Mexico, **Burnett & Lyman**; *A. seniculus straminea* Humboldt taxonomic note, **Husson, A. M. (1)**.

Ateles colour vision tests, **Easter & Nichols**; *A. paniscus paniscus* type locality restricted to Rio Jamunda near Faro, north bank of Amazon, Para, Brazil, **Husson, A. M. (1)**.

Cebus Eberhard, 1768, rejected, **Opinion 445**; *C. trepida* (Linn.) synonym of *C. apella*, *C. nigrivittatus* Wagner 1848 rejected in favour of *C. olivaceus* Schomburgk, 1848, **Husson, A. M. (1)**.

Lagothrix lagotricha breeding in captivity, foetal morphology, **Hill, W. C. O. (5).**

CALLITHRICIDAE

Monograph of marmosets, **Hill, W. C. O. (2).**

Callithrix jacchus lethargic condition in winter, **Kraft (2).**

Leontocebus melanoleucus acrensis **subsp. nov.** Pedra Preta, 15 km. from Vila Taumaturgo, right bank Rio Jurua, Acre, Brazil, p. 219, **Carvalho (1).**

Marikina (*Tamarin*) *midas* Linn. type locality restricted to Dutch Guiana, **Husson, A. M. (1).**

Simia leonina Humboldt taxonomic status, description of topotypes, preoccupied, valid name *Leontocebus fuscus* Lesson, **Hershkovitz (1).**

CERCOPITHECIDAE

Cercopithecidae chromosome counts, **Chu & Giles.**

Voice and larynx structure in Colobidae, **Hill & Booth.**

Review of fossil Cercopithecoidea of S. Africa, **Freedman.**

†*Ankarapithecus* **nom. nud.** for *A. meteai* **nom. nud.** Pliocene, Turkey, p. 43, pl. 1, **Ozansoy (2).**

Cercocebus not accepted as occurring in N. Rhodesia, **Ansell (1);** *C. albigena johnstoni* status, distribution and habits in Uganda, **Haddow.**

†*Cercopithecoides* Mollett generic status, additional description, *C. molletti* **sp. nov.** Pleistocene, Swartkrans, Transvaal, S. Africa, p. 232, **Freedman.**

Cercopithecus a. callitrichus birth and rearing in captivity, **Moog;** *C. nictitans* range in N. Rhodesia, **Ansell (1).**

Colobus polykomos abyssinicus liver, **Starck (3);** *C. p. sharpei* distribution in N. Rhodesia, **Ansell (1).**

†*Dinopithecus* Broom additional description, **Freedman.**

†*Gorgopithecus* Broom and Robinson additional description, **Freedman.**

Macaca vertebral nerve system, **Stilwell;** *M. nemestrina* characteristics and temperament, suitability for research, **Cole, J.;** *M. silenus* northernmost locality record, **Ali & Santapau;** *M. sylvana* status, habits and distribution in Morocco, **Panouse.**

Papio ursinus innate behaviour, **Bolwig;** craniometry and skull morphology, **Freedman.**

†*Papio* review of S. African species, *P. robinsoni* **sp. nov.** Pleistocene, Swartkrans, Transvaal, p. 183, **Freedman.**

†*Parapapio* review of species, additional descriptions, *P. angusticeps* Broom transferred to *Papio*, "*P.*" *coronatus* Broom and Robinson uncertain allocation, **Freedman.**

Presbytis senex distribution of races in Ceylon, **Norris, C. E.**

Procolobus verus biological study, **Booth, A. H.**

Rhinopithecus roxellanae photo in captivity, **Pang-Chieh.**

†*Simopithecus* valid genus, additional description, *S. leakeyi* Hopwood synonym of *S. oswaldi* Andrews, *S. danieli* **sp. nov.** Pleistocene, Swartkrans, Transvaal, S. Africa, p. 208, **Freedman.**

Theropithecus gelada sexual skin warts, **Appelmann.**

Trachypithecus germaini detailed osteology of foot, **Olivier & Fontaine;** femur study, **Olivier & Piganiol.**

Trachypithecus (*Presbytis*) *leucocephalus* **sp. nov.** Fusui country, S. Kwangsi Prov., China, p. 63, **Pang-Chieh.**

PONGIDAE

The S. African prehominids, skulls and reconstructions, **Weinert (1).**

Review of prehominid characters and classification, **Pehrson.**

New australopithecine finds, **Weinert (2).**

Australopithecine dating by use of †*Crocuta* spread, **Kurten (1).**

Anthropoid basicranial axis age changes, **Ashton (2).**

Fossil apes and primitive men, **Nesturkh.**

Age changes in sex differences of gorilla and chimpanzee skulls, **Ashton (1).**

†*Australopithecus* monograph of dentition, **Robinson, J. T.**; associated with stone artefacts, **Robinson & Mason**; †*A. prometheus* supposed bone culture, **Dart (2).**

†*Dryopithecus keiyuanensis* **sp. nov.** Pliocene, Keiyuan, Yunnan Province, p. 28, **Woo.**

†*Epipliopithecus* **subgen. nov.** (type *E. vindobonensis*) see *Pliopithecus.*

†*Gigantopithecus* jaw-bone, anthropoid not hominid, **Pei (1)**; history, discovery of mandibles, study of characters, **Pei (3)**; discovery of localised teeth, Pleistocene, Tahsin District, Kwangsi Province, anthropoid characters, **Pei & Woo**; discovery of jaw in Kwangsi, **Anon. (18)**; mandible figured, **Anon. (19)**; history, discovery of mandible in 1956, **Vallois**; †*G. blacki* mandible described, tooth measurements, photo, **Koenigswald (2).**

Gorilla gorilla behaviour and photos of young in captivity, **Grzimek (2)**; weights and measurements, **Grzimek (7)**; weights, **Grzimek (9)**; status and habitat in E. Nigeria, **March**; birth in captivity, **Pohl**; born in captivity, **Zhabinski**; *G. g. beringei* status in S.W. Uganda, **Milton (1)**; habitat, habits, nest photos, **Heim.**

†*Oreopithecus bambolii* assessment of evolutionary significance, **Melendez.**

Pan troglodytes first recorded observation of swimming, **Grzimek (9)**; fire-control reactions of smoking addicts, **Brink (2)**; right handedness, **Maiorov & Firsov**; behaviour in freedom in U.S.A., **Hess**; myology of forearm and hand, **Jouffroy & Lessertisseur.**

†*Pliopithecus* (*Epipliopithecus* **subgen. nov.**) for type species *P. vindobonensis* **sp. nov.** Miocene, Neudorf on March, Czechoslovakia, p. 120, **Zapfe & Hurzeler.**

Pongo pygmaeus present status, **Grzimek (5)**; successful breeding at Philadelphia, **Ulmer.**

†*Telanthropus* as possible maker of stone artefacts, **Robinson & Mason.**

†*Udabnopithecus* **gen. nov.** for type species *U. garedziensis* Miocene, near David Garedjeli Convent, Udabno, S.E. Kakhethia, distr. Sagaredjo, E. Georgia, p. 239, **Burchak-Abramovich & Gabashvili** [N.B. Antedates reference given in Zoo Record 1952].

Hominidae

Africa and man's origins, **Hennig.**

Methods and results of dating hominid and pre-hominid fossils, **Oakley.**

Tooth eruption sequence in fossil and recent man, **Garn & Koski.**

Is Neanderthal man extinct ?, **Weinert (3).**

Neandertalian character of human mandible from Mousterien of Petit-Puymoyen, **Gabis.**

Cervical vertebrae of La Chapelle Neandertal man within limits of human variation, **Toerien.**

Saldanha man structure and culture, **Straus.**

†*Atlanthropus* third mandible from Ternifine, **Arambourg (1).**

†*Hemianthropus* **gen. nov.** for type species *H. peii* sp. nov. Pleistocene, China, p. 158, **Koenigswald (2).**

†*Pithecanthropus* beds of Java of middle-Pleistocene age, **Hooijer (1).**

ORDER EDENTATA

Phylogeny of edentates, **Hoffstetter.**

Suborder Xenarthra

†Megalonychidae

†*Orophodon hapaloides* Oligocene, Patagonia, detailed study, **Hoffstetter.**

†Mylodontidae

†*Octodontotherium grande* Oligocene, Patagonia, detailed study, **Hoffstetter.**

†*Scelidotherium* cranial studies, **Guth (1)**; †*S. magnum* ear bones, **Guth (2).**

Bradypodidae

Choloepus didactylus gestation, **Stone.**

†*Eremotherium rusconii* taxonomic status, skeletal characters, discovery sites in Panama, **Gazin (1).**

DASYPODIDAE

Chaetophractus villosus anatomy, **Schröder.**

Chlamyphorus truncatus structure and habits, photos, **Arentsen;** ecological needs, causes of diminution, proposals for conservation, **Lagiglia.**

†*Chlamytherium septentrionale* (Leidy) nearly complete specimen Pleistocene, Texas, descr. figs., *Holmesina* Simpson a synonym, **James, G. T.**

Dasypus novemcinctus litter size variation, **Buchanan.**

†*Holmesina* Simpson synonym of *Chlamytherium* Lund., **James, G. T.;** †*H. septentrionalis* Pleistocene, Florida, skull and mandible, descr. figs., **Bader.**

†GLYPTODONTIDAE

Review of Pliocene glyptodonts of the Argentine, **Cabrera.**

†*Eleutherocercus solidus* Pliocene, Catamarca, descr. figs., taxonomy, p. 62, **Cabrera.**

†*Eosclerocalyptus planus* Pliocene, Catamarca, descr. figs., taxonomy, *E. lilloi* synonym, p. 8, **Cabrera.**

†*Glyptodontidum* **gen. nov.** for type species *G. tuberifer* **sp. nov.** Pliocene, Puerta de Corral Quemado, Belen, Catamarca, N.E. Argentine, p. 71, **Cabrera.**

†*Hoplophorus ornatus* ear bones, **Guth (2).**

†*Hoplophractus proximus* Pliocene, Catamarca, descr. figs., taxonomy, p. 20, **Cabrera.**

†*Lomaphorus corallinus* Pliocene, Catamarca, descr. figs., taxonomy, p. 58, **Cabrera.**

†*Phlyctaenopyga* **gen. nov.** for type species *P. ameghini* Ameghino 1889, p. 42, **Cabrera.**

†*Stromaphorus compressidens* Pliocene, Catamarca, descr. figs., taxonomy, p. 30, **Cabrera.**

ORDER PHOLIDOTA

Manis (*Phataginus*) *tricuspis* distribution in Ivory Coast, external morphology, **Rahm (1);** habits in captivity, **Eisentraut (5).**

Manis (*Uromanis*) *longicaudatus* distribution in Ivory Coast, external morphology, **Rahm (1).**

Smutsia gigantea occurrence in Ivory Coast, data of fresh specimen, **Cachan;** feeding habits in Sudan, **Sweeney;** first records for Ivory Coast, **Rahm (1);** *S. temmincki* successful rearing in captivity, **Anon. (2).**

ORDER LAGOMORPHA

Lagomorpha related to Artiodactyla, Selenodontia, **Stohl.**

Lagomorph phylogeny, **Wood.**

OCHOTONIDAE

Ochotona pallasi ecology and reproduction, **Shubin;** *O. rufescens vulturna* distribution, status and habits in Afghanistan, **Akhtar.**

LEPORIDAE

Morpho-functional analysis of jaws in Leporidae, **Lebedkina.**

Rabbit bibliography, **Makepeace.**

Biology of hare in Ukraine, **Modin (1).**

Lepus sp. successful rearing in India, **Murray, M. E. W.;** *L. americanus* tactics when hunted by marten, **Williams, T. R.;** *L. a. macfarlani* winter metabolism in Alaska, **Irving and others (1);** *L. arcticus* habits and photos in N.E. Greenland, **Pedersen, A. (4);** *L. c. californicus* study of reingestion, **Lechleitner;** *L. c. deserticola* tick abundance in Utah, **Rosasco;** *L. c. melanotis* range record in S. Dakota, **Schantz;** *L. europaeus* structure and morphogenesis of "incisive horns," **Friant (5);** population fluctuations in Denmark, **Andersen;** question of animal diet, **Petzsch (1);** placenta, **Strauss (2);** swimming ability, **Gewalt (2);** *L. e.* × *L. timidus* hybrids in Kazan Zoo, **Grigoryev;** *L. t.* winter habitats in Finland, **Koskimies;** *L. mandschuricus raddei* characters, ecology and distribution in Ussuri district, **Dulkeit.**

Oryctolagus cuniculus effect of myxomatosis in N. Scotland, **Shanks and others**; effects of myxomatosis in Lakeland, **Delap (3)**; proportional skull growth changes, **Empel**; changing habits ?, **Burton (4)**; found alive without fur, **Coaker**; reproduction in New Zealand, **Watson, J. S.**; poison control trials in New Zealand, **Wodzicki & Taylor**; control in New Zealand, **Hudson**; *O. c.* unsuccessful attempt to cross with *Lepus europaeus*, **Adams, C. E.**; mistakenly reported from Uganda, **Hayman (1)**; *O.* dom. nest building behaviour, suckling habits, **Deutsch**; evolutionary changes in myxomatosis, **Fenner**; development of "silvering," **Reintjes**.

Poelagus marjorita status and distribution in Central Africa, **Hayman (1)**.

Sylvilagus audubonii arizonae reproduction, **Sowls**; *S. brasiliensis caracasensis* **subsp. nov.** between San Pedro and Los Teques, Estado Miranda, 1200 metres, Venezuela, p. 17, **Mondolfi & Mendez**; *S. floridanus* coprophagy, **Geis (2)**; body temperature, **Janes**; normal blood cell counts, **Geis (1)**; late pregnancy, **Lemke**; *S. f. mearnsii* breeding productivity in Iowa, **Hubbard & Hendrickson**; nesting habits and data, **Linder & Hendrickson**; population estimation techniques, **Crunden & Hendrickson**; *S. idahoensis* range extension in California, **Jones, F. L.**

ORDER RODENTIA

Procumbency in rodent upper incisors, **Landry (1)**.

Small rodents of Germany, **Kahmann (1)**.

Notes on Spanish rodents, **Niethammer**.

Rodents of Polesie, **Mikhalap**.

Rodent damage to crops in Rumania, **Hamar**.

Rodent population of Russian oak woods, **Petrov and Shmatko**.

Studies on rodents of USSR, **Gromov (1)**.

Pleistocene rodents of Samara, **Gromov (3)**.

Pleistocene rodents of Kuibishev area, **Gromov (4)**.

Pleistocene rodents of Lower Ural, **Gromov (5)**.

Pleistocene rodents of Volga-Don region, **Gromov (6)**.

Rodents of Daghestan, **Lavrovski & Kolesnikov**.

Rodents of S. Osetia, Georgia, **Shidlovski (1)**.

Effect of drought on rodent distribution in N. Kazakhstan, **Strautman**.

Rodents of Luzon highlands, characters and field notes, **Rabor (2)**.

Destructive rodents in Kivu, **Pirlot (1)**.

Rodent populations in Kivu, **Pirlot (2)**.

Rodents from El Salvador, **Felton (3)**.

Oligocene and Miocene rodents from Bavaria, descr. figs., **Schalk**.

Suborder Sciuromorpha

†Ischyromyidae

†*Cyclomylus lohensis* Oligocene, N. Kansu, descr. figs., **Young & Chow**.

Aplodontidae

Aplodontia rufa rufa pelage abnormalities, **Anderson & Russell**.

Sciuridae

Brain in 3 Indian squirrels, **Harde**.

Squirrels from S. Yunnan, **Stroganova**.

Occurrence of bregma bone in N. American squirrel skulls, **Virkki**.

Callosciurus erythraeus erythraeus recorded from Tonkin, **Dandelot**; *C. e. hendeei*, *C. pygerythrus imitator*, first records for Yunnan, **Stroganova**.

Citellus thermoregulation, **Chugunov and others**; habitat changes in Southern Pre-Urals, **Brudin**; alleged hybridism in U.S.A. refuted, **Hansen (2)**; *C. beecheyi* asymmetry of mammae in California, **Prychodko (2)**; *C. citellus* temperature experiments in summer and winter, **Davidovic**; attempts to produce artificial hibernation, **Davidovic & Popeskovic**; *C. lateralis* experiments on

hibernation, **Pengelley & Fisher**; *C. pygmaeus* cranial and dental indices of age, **Meier**; activity rhythm studies, **Ivanov**; population interactivity, control methods, **Ivanov & Polyakov**; changes in distribution in Pre-Caucasus, **Babenishev**; nest plant composition, **Kiryanova & Ivanov**; *C. richardsonii elegans* breeding data in captivity, **Denniston**.

†*Citellus pygmaeus paleocaspicus* p. 202, *C. p. musicoides* p. 203, both **subspp. nov.** Pleistocene, Mergenevsk, Ural, **Gromov (5)**.

†*Citellus* (*Urocitellus*) *nogaici* **sp. nov.** Pliocene, near Nogaisk, coast of Sea of Azov, Ukrainian S.S.R., p. 204, **Topachevsky (1)**.

Eutamias minimus jacksoni distinct from *E. m. neglectus* and *E. m. borealis*, **Jackson (1)**.

Funambulus palmarum, F. pennanti comparative study of male genital tract, importance in sciurid classification, *F.* raised to subfamily rank, **Prasad**; *F. pennanti* breeding data and family habits, **Banerji**; damage to lac production, **Krishnaswami and others**; **Krishnaswami & Chowhan**.

Glaucomys volans habits and photos, **Rue**.

Heliosciurus Trouessart 1880 placed on Official List: *gambianus* Ogilby 1835 placed on Official List as type species of *Heliosciurus*, *annulatus* Desmarest 1822 suppressed, **Opinion 464**.

Heliosciurus (*Aethosciurus*) *lucifer* first record N. Rhodesia, **Ansell (1)**.

Marmota baibacina ecological needs in Tien Shan, **Bibikov & Stogov**; burrow systems, **Berendyaev**; *M. bobac centralis* ecology and reproduction in Tian-Shan, **Ismaghilov (1)**; *M. camtschatica* ecological relationships to birds of prey, **Kapitonov**; *M. marmota* territorial marking, fighting and defence reactions, **Koenig**; growth and development of young in captivity, **Psenner (1)**; a little-known colony in Bavarian Alps, **Müller-Using (3)**; habits and photos in wild, **Rödle**; glycogen and lipid reserves during activity and hibernation, **Weill & Kayser**.

Paraxerus (*Tamiscus*) *boehmi* first record N. Rhodesia, **Ansell (1)**.

Petaurista magnificus habits in captivity, photos, **Sen**.

Sciurus technique for assessing male reproductive development, **Hoffman & Kirkpatrick**; *S. aberti ferreus* sexual behaviour, **Rice (2)**; *S. carolinensis* recent status in London area, **Beven**; *S. c., S. niger* range and spread in N. Dakota, **Hibbard (1)**; *S. c., S. n.* status in Tennessee, **Schultz**; *S. niger rufiventer* cranial nerves, **Jenkins, T. W.**; *S. n. shermani* natural history in Florida, **Moore, J. C. (1)**; *S. vulgaris* colour phases in Finland, **Voipio (2)**; colour vision tests, **Meyer-Oehme**; activity rhythm, **Burton (6)**; technique of nut opening, **Eibl-Eibesfeldt (3)**; albinism in Spain, **Balcells & Palaus**; *S. v. exalbidus* characters, habits and population in Transural, **Smirnov, V. S.**; *S. v. fuscoater* winter breeding in Germany, **Fischer**; swimming powers, **Gewalt (2)**; *S. v. leucourus, S. carolinensis* relative status and distribution Gt. Britain in 1955, **Shorten**; *S. v. v., S.v. varius* two races in Finland, genetic distinction, **Voipio (1)**.

Spermophilopsis leptodactylus systematic significance of male genital tract, **Geptner**; *S. l. bactrianus* ecology in Iran, **Petter & Mostachfi**.

Tamias striatus field study in Wisconsin, **Panuska & Wade**; *T. s. lysteri* homing experiments, **Layne**; *T. s. rufescens* acorn consumption, **Verme**.

GEOMYIDAE

Geomys bursarius wisconsinensis **subsp. nov.** Lone Rock, Richland County, Wisconsin p. 33, **Jackson (2)**.

Orthogeomys grandis engelhardi **subsp. nov.** Finca El Carmen (1319 m), Volcan de San Vicente, El Salvador, p. 151, **Felten (3)**.

Pappogeomys alcorni **sp. nov.** 4 miles W. of Mazamitla, 6600 ft., Jalisco, Mexico, p. 359, **Russell**.

Thomomys population fluctuations, **Aldous**; *T. bottae* colour variation measurements with reflectometer, **Getz**; *T. b. aureiventris* occurrence in N.E. Nevada, **Chamberlain**; *T. monticola*

activities and increase of conifer seedlings, **Tevis**; *T. talpoides* Pleistocene distribution in Kansas, **Waters**; *T. t. tenellus* seasonal inactivity, **Laycock**.

HETEROMYIDAE

Dipodomys water metabolism experiments, **Nichter**; *D. spectabilis baileyi* biology in New Mexico, **Holdenried**.

Perognathus reproduction, **Duke**; *P. longimembris* experimental temperature and hibernation studies, **Bartholomew & Cade**.

CASTORIDAE

Castor canadensis canadensis relation between reproductive condition and skull characteristics, **Bond, C. F.**; digestive enzyme system, **Kitts, W. D. and others**; movements of tagged animals in Alaska, **Libby**; record litter for Colorado, **Hay**; ecological management in Rocky Mts., **Yeager & Rutherford**; size of chippings, **Shadle**; introduced to Ukraine, status and food habits, **Marin**; *C. fiber* extermination and reintroduction in Switzerland, **Blanchet**; breeding data and rearing methods, **Hinze**; reintroduction to Switzerland, **Hainard**.

†*Steneofiber butselensis* **sp. nov.** Oligocene, Hoogbutsel, Boutersem, near Louvain, Belgium, p. 5, **Misonne** (2).

†*Trogontherium boisvilletti* new find Pleistocene, S. Germany, **Lehmann, U.** (1); †*T. sinensis* **sp. nov.** Pleistocene, Hsiatsaohwan, Shihhunghsien, China, p. ? **Young, C.-C.**

?SCIUROMORPHA *incertae sedis*

†PSEUDOSCIURIDAE

†*Adelomys palustris* **sp. nov.** Oligocene, Hoogbutsel, Boutersem, near Louvain, Belgium, p. 2, **Misonne** (2).

†THERIDOMYIDAE

†*Theridomys aquatilis* Oligocene, Belgium, tooth measurements, **Misonne** (2).

PEDETIDAE

†*Megapedetes* **gen. nov.** for type species *M. pentadactylus* **sp. nov.** Miocene, Songhor, W. Kenya, 0° 23′ S., 35° 14′ E, p. 1, detailed comparison with *Pedetes*, phylogeny of family, **MacInnes**.

SUBORDER MYOMORPHA

CRICETIDAE

Cytology, systematics and phylogeny of microtines, **Matthey** (2).

Ecology of Transcarpathian microtines, **Turyanin**.

Influence of snow cover on vole burrowing, **Bashenina** (1).

Prenatal losses in cricetids, **Beer and others**.

Review of gerbils and jirds of Israel, cytotaxonomy, ecology, evolution, **Zahavi & Wahrman**.

List and keys of Gerbillinae of Palestine, **Petter** (2).

Distribution of gerbils in Irak and Iran, **Petter and others**.

Arvicola terrestris control, **Bruel and others** (1); scent-marking behaviour, **Frank** (2); study in Poland, **Kubik**; *A. t. amphibius* homing experiments, **Best**.

Baiomys taylori additional records in S.E. Arizona, **Justice**.

Chilotus oregoni chromosomes, **Matthey** (2).

Clethrionomys gapperi arboreal nesting habits, **Grant**; *C. g. ungava* range extension to north, **Banfield** (3); *C. glareolus* breeding data in captivity, gestation variation, **Steven**; home range and orientation tests, **Lehmann, E. V.** (1); susceptibility to bovine tuberculosis, **Hauduroy & Bize**; deciduous twigs as winter food, **Rotschild & Krivosheyev**; *C. rufocanus* reproductive study, natural regulation of reproductive rate, **Kalela**.

†*Cricetodon atavus* **sp. nov.** Oligocene, Hoogbutsel, Boutersem, near Louvain, Belgium, p. 7, **Misonne** (2).

Cricetulus barabensis griseus breeding and rearing in captivity, **Herter & Rauch**; *C. griseus* sex chromosomes, **Husted & others**.

†*Cricetulus kipianii* **sp. nov.** Pleistocene, Krasnogo Yara, Upper Volga, p. 167, **Gromov** (4).

Cricetus cricetus blood characteristics, **Raths**; morphology of hairs, **Kourist**.

Dicrostonyx groenlandicus development of bifid winter claws, **Hansen (3)**; *D. g. rubricatus* extra incisors, **Hansen (1)**; daylight influence on activity rhythm, **Hansen (4)**.

Eligmodontia puerulus puerulus valid for Peru, **Pearson.**

Ellobius lutescens chromosomes, **Matthey (2)**; interpretation of sex-chromosome mechanism, **White.**

Eothenomys review of Japanese forms, *E. kageus* **sp. nov.** Yamura-Machi, Minamitsuru-Gun, Yamanashi Pref., Honshu, Japan (about 25 km. N.E. of Mt. Fuji), p. 204, **Imaizumi.**

Gerbillus eatoni valid species, **Setzer (2)**; *G. gerbillus, G. allenbyi* specifically distinct on cytological grounds, **Zahavi & Wahrman**; *G. nanus* distribution in Iran and Irak, **Petter & others.**

Gerbillus (*Dipodillus*) *nanus, G.* (*D.*) *dasyurus* taxonomic status, distribution in Israel, **Zahavi & Wahrman**; *G.* (*D.*) review of Egyptian forms, with key, **Wassif.**

Hesperomys sorella recorded from highlands of Peru, *H. ducilla* Thomas synonym of *H. lepidus* Thomas, **Pearson.**

Lagurus lagurus food for breeding animals in captivity, **Bashenina (2)**; weight changes with sex and age, **Kryltsov.**

Lemmus lemmus chromosomes, **Matthey (2)**; *L. trimucronatus* displacement activity, **Pruitt (3).**

Meriones cytological and taxonomic study, **Matthey (1)**; rate of population recovery after severe reduction, **Bakeev**; in Georgia, **Shidlovski (3)**; as pest in Azerbaidjan, control methods, **Zakharchenko & Abramov**; *M. crassus, M. sacramenti, M. tristrami* all valid species in Israel on cytological data, *M. erythrourus legeri* probably synonym of *M. sacramenti*, **Zahavi & Wahrman**; *M. erythrourus* in Asia, population changes in relation to climate, **Gladkina & Polyakov**; *M. persicus* first record Irak, *M. hurrianae* extended distribution in S. Iran, *M. tristrami* first record Irak, *M. meridianus* new Iran locality, *M. crassus* status and distribution in S.W. Asia, **Petter and others**; *M. sacramenti, M. libycus* new to Turkey, **Misonne (1)**; *M. tamariscinus* behaviour study, growth of young, pelage changes, **Rauch**; *M. vinogradovi* new to Syria, **Misonne (1).**

Mesocricetus auratus life span experiments, **Grindeland and others**; salivary glands and head and throat anatomy, **Michel**; attempts to breed an albino, **Moore, M. L.**; partial albinism, **Robinson, R.**; correction of Fellner's account, **Petzsch (3).**

Microtus population cycles in Denmark, **Pedersen, C.**; controlled by toxaphene spraying, **Heidenreich**; toxic control, **Telle**; *M. agrestis* fertilization and early cleavage, chromosome study, **Austin**; Welsh plague 1956/7, damage to forestry, **Cadman**; noticeable absence in Cardiganshire in 1957, **Lewis Jones**; damage and control, **Mehl**; male breeding smell, **Frank (5)**; ecology in Poland, **Gorbik**; *M. arvalis* curious sexual behaviour, **Frank (1)**; high reproductive potential, **Frank (3)**; genetics of coat colour mutations, **Frank & Zimmermann (1)**; relation between length of life and morphological characters, **Frank & Zimmermann (2)**; population study in pine plantations, **Stein, G. H. W. (1)**; physiology, reproduction, population dynamics, **Stein, G. H. W. (2)**; sex ratio study, **Reichstein (1)**; new colour mutation, **Reichstein (2)**; carrying 13 embryos, **Reichstein (4)**; periodicity in population cycles in Holland, **Wijngaarden (2)**; genito-suprarenal relations, **Delost (1)**; study of local movements, **Wilusz**; wintering conditions in Carpathians, **Turcek (2)**; populations in Russia controlled by birds of prey, **Lavrova & Karaseva**; hydrocephalus, **Stein, G.**; *M. californicus* study of reproduction, **Greenwald (1)**; *M. guentheri* caged population studies, **Bodenheimer (2)**; dynamic model for population fluctuations, **Bodenheimer & Dvoretzky**; development of egg, **Bodenheimer & Lasch**; *M. mexicanus* chromosomes, **Matthey (2)**; *M. montebelli* relative bone growth, **Shimizu**; *M. mustersi* new Libyan locality record, **Setzer (2)**; *M. nivalis ulpius, M. n. mirhanreini* taxonomic study, *M. radnensis* Ehik synonym of *M. n. mirhanreini*, **Kowalski**; *M. ochrogaster* study of reproduc-

tion and growth, **Fitch**; *M. ochrogaster*, *M. pennsylvanicus* comparative characters and ecology at same locality in Ohio, **DeCoursey**; *M. oeconomus* ecology and reproduction in Russia, **Karaseva & others (1)**; leptospirosis-infected animals specially subject to predation, **Karaseva and others (2)**; *M. pennsylvanicus* experiments with radioactive injections for tracing movements by excretions, **Miller**; adrenocortical activity in relation to population dynamics, **Louch**; *M. p. drummondii* distribution and biology in Manitoba, **Criddle**.

†*Mystromys* review of species, *M. hausleitneri barlowi* Broom synonym of *M. h.*, *M. darti* **sp. nov.** Plio-Pleistocene, Limeworks Quarry, Makapansgat, Transvaal, p. 71, **Lavocat**.

†*Nebraskomys* **gen. nov.** for type species *N. megrewi* **sp. nov.** Pleistocene, 6 miles N. of Ainsworth, Brown County, Nebraska, p. 43, **Hibbard, C. W.**

Neotoma review of E.U.S.A. forms, *N. magister* subspecies of *N. floridana*, **Schwartz & Odum**; *N. albigula* house density in Arizona chaparral, **Hanson**; *N. lepida lepida* life history of laboratory colony, **Egoscue (2)**; *N. l. aridicola* **subsp. nov.** El Barril (near 28° 20′ N.), Gulf of California, Baja California, Mexico, p. 287, **Huey**.

†*Ogmodontomys sawrockensis* **sp. nov.** Pliocene, Saw Rock Canyon, Seward County, Kansas, p. 39, **Hibbard, C. W.**

Ondatra zibethica house life duration, **Nicholson & Davis**; status and distribution in Saar, **Husson, R. (3)**; reproduction and population study in Czechoslovakia, **Kratochvil**; distribution in Czechoslovakia, **Turcek (1)**; method of trapping while on migration, **Bruel and others (3)**; breeding in USSR affected by wild boars, **Novikov**; naturalized in Amur region of N.E. China, **Shaw**; *O. z. cinnamomimus* skull dimensions at known ages, **Sather**; *O. z. osoyooensis* biological study in Idaho, **Reeves & Williams**.

Onychomys leucogaster range extension in Minnesota, **Dickerson & Tester**.

Oryzomys palustris palustris Kentucky records, **Barbour**.

†*Paracricetodon dehmi* **sp. nov.** Oligocene, White Jura, near Bernloch, Kr. Munsingen, Swabian Alps, p. 251, **Hrubesch**.

Peromyscus dental pattern variation, taxonomic unimportance, **Hooper (1)**; subject to aggressive behaviour by *Mus*, **King, J. A.**; three Recent species found in Pleistocene, Texas, **Tamsitt**; *P. boylei* melanism in California, **Howard (1)**; *P. leucopus* population study in New Jersey, **Davis, D. E. (2)**; pineal body variation, **Quay (1)**; *P. l.*, *P. maniculatus bairdii* population study on strip-mined land, **Verts**; *P. l. noveboracensis* juvenile pelage changes, **Gottschang**; acorn consumption, **Verme**; *P. maniculatus* communal nesting, **Hansen (5)**; records from Gulf Coastal Plain, Texas, **Pettus & Robinson**; *P. m. bairdii*, *P. m. gracilis* possible natural intergradation in New York, **Barbehenn & New**; *P. truei* supernumerary molar teeth, **Hooper (4)**; *P. t. zapotecae* **subsp. nov.** 1 mile E. of Tlacolula, Oaxaca, Mexico, 5700 ft. p. 6, **Hooper (2)**.

Phenacomys ungava chromosomes, **Matthey (2)**.

Phodopus roborovskii new to Soviet fauna, **Bibikov (2)**.

Phyllotis (*Galenomys*) *garleppi* Thomas first record Peru, first field and cranial measurements, **Pearson**.

Pitymys sikimensis recorded from Nepal, **Biswas & Khajuria**; *P. subterraneus* cortex, **Delost & Vincent**.

Psammomys obesus terraesanctae probably synonym of *P. o. obesus*, **Zahavi & Wahrman**.

Punomys lemminus range extension in Peru, **Pearson**.

Reithrodontomys burti in Sinaloa, range extension, **Russell & Alcorn**; *R. megalotis dychei* new records in Illinois, **Klimstra**; *R. mexicanus* range extension in Michoacan, Mexico, **Hooper (3)**; *R. montanus griseus* range extension in S.E. Kansas, **Brecheisen & Legler**.

Rhombomys opimus relation of burrow system to sand ridges, **Naumov & Siroyechkovsky**; effect of dried food stores on fleas in burrows, **Dyatlov**.

Sekeetamys calurus valid genus and species on cytological data, habitat and distribution in Israel, **Zahavi & Wahrman.**

Sigmodon hispidus nest position and structure, **Hastings.**

Synaptomys borealis innuitus northward range extension in Quebec, **Banfield (3)**; *S. cooperi* in Manitoba, home range, **Buckner (1)**; as agent in plant dispersal by cuttings, **Connor.**

Tatera brantsi early embryonic development, **Andrew**; *T. indica* new to Turkey, **Misonne (1).**

SPALACIDAE

Spalax ehrenbergi new to Turkey, **Misonne (1).**

†*Spalax microphthalmus minor* **nom. nud.** Kaizi, Kherson Prov., Ukraine, p. 141, **Topachevski (3).**

MURIDAE

Dispersal of rodents by human transportation, **Baranovskaya.**

Different learning ability in rats and mice. **Reetz.**

Rick populations of rats and mice, **Davis, R. A. (3).**

Muridae of Latvia, **Lapin.**

Bombay rat populations as plague-flea carriers, **Deoras & Tonpi.**

Tularemia in stack-living rodents, **Pomanskaya.**

Rodent range extensions in W. Australia, **Lundelius.**

Reproduction in some Congo murids, **Pirlot (3).**

Apodemus agrarius population study in Korea, **Davis, D. E. (3)**; *A. flavicollis* first report for Holland, **Husson (2)**; wintering in nest boxes, **Zimmermann (4)**; *A. f.*, *A. sylvaticus* attempts to cross in captivity, **Zimmermann (3)**; *A. sylvaticus* 6-year longevity, **Neuhaus**; population study, **Lehmann, E. V. (2)**; population characteristics in Georgia, **Morgilevskaya**; *A.* from Channel Is. and from Scottish Islands *A. sylvaticus* rather than *A. flavicollis*, diagnostic key, **Cranbrook**; *A. s.*, *A. flavicollis* comparative skull characters, **Reinwaldt (2)**; *A. s.*, *A. f.* home range and oreintation tests, **Lehmann, E. V. (1)**; *A .s. clanceyi* Harrison synonym of *A. s. milleri* De Beaux (not listed in Ellerman and Morrison-Scott, 1951), **Zangheri**; *A. s. dichrurus* of Sicily, not composed of two ecotypes, **Kahmann (3).**

Beamys major first record N. Rhodesia, taxonomic characters, **Ansell (1).**

Lophuromys flavopunctatus rita recorded from N. Rhodesia, **Ansell (1).**

Micromys minutus population changes in Hampshire, **Jenkins, D.**; colour mutation, **Piechocki**; *M. m. subobscurus* breeding and general biology in captivity, **Frank (4).**

Mus dom. scent gland pattern of soles of feet, **Ortmann**; experimental dehydration, **Chew & Hinegardner**; *M. musculus* experimental population growth study, **Crowcroft & Rowe**; genetic variability, **Dunn (2)**; behaviour and orientation, **Calhoun**; relation of population size to adrenal and reproductive activity, **Christian**; outdoor habits on Skokholm, **Davis, R. A. (2)**; susceptibility to tularemia, **Tereschenko**; aggressiveness to *Peromyscus*, **King, J. A. (2)**; *M. triton* taxonomic characters of N. Rhodesian specimens, **Ansell (1).**

Nesokia indica as human food, **Gheyara.**

Papagomys suspected presence on Rintja, Lesser Sunda Is., **Pfeffer.**

†*Papagomys armandvillei besar* **subsp. nov.** p. 301, *P. verhoeveni* **sp. nov.** p. 302, both Pleistocene, Liang Toge near Warukia, Manggarai, western Flores, **Hooijer (3).**

Pelomys minor first record N. Rhodesia, **Ansell (1).**

Petromyscus dental characters, relationship with *Mystromys*, **Lavocat.**

Rattus text book of anatomy, physiology, embryology, genetics, care and rearing, **Rowett**; successful control methods at Cuxhaven, **Steiniger (2)**; ecology in Pacific atolls, **Marshall**; control problem on Mindanao, **Rabor (1)**; *R.* dom. differential growth in skull, **Moss**

& Baer; *R.* status of African subgenera, **Petter (1)**; *R. norvegicus* frequency of population reduction by weather, **Davis, D. E. (1)**; adrenal weight in population study, **Christian & Davis**; first record Corcisa, in arid habitat, **Kahmann & Haedrich (1)**; scenting ability, **Gruch**; decline in infestations in Georgia, **Smith, W. W.**; *R.* habitat of some Malayan forms, *R. rajah surifer*, *R. r. pellax* probably colour varieties, **Harrison, J. L. (2)**; *R. rattus* claimed occurrence in 9th century in Ireland, **MacArthur, W. P.**; characters of Corsican specimens, **Kahmann & Haedrich (2)**; *R. r.*, *R. norvegicus* behaviour patterns, **Barnett**.

Rattus (*Aethomys*) *chrysophilus dollmani* recorded from N. Rhodesia, **Ansell (1)**.

Rattus (*Hylomyscus*) *denniae* first record of subgenus for N. Rhodesia, **Ansell (1)**.

Rattus (*Mastomys*) *coucha* growth and sexual maturity, **Pirlot (4)**; gene-controlled sterility in laboratory stock, **Menzies, J. I.**; *R.* (*M.*) *erythroleucus* a distinct species, *R.* (*M.*) *natalensis kollmannspergeri* **subsp. nov.** near Tedjidda-n-Tesemt, 134 km. N. of Agades, Air, p. 129, **Petter (1)**.

Rattus (*Praomys*) *morio delectorum* notes on N. Rhodesian specimens, **Ansell (1)**.

†*Spelaeomys* **gen. nov.** for type species *S. florensis* **sp. nov.** Pleistocene, Liang Toge near Warukia, Manggarai, western Flores, both p. 306, **Hooijer (3)**.

Gliridae

Dryomys nitedula systematics and distribution in Georgia, **Shidlovski (4)**; *D. n. intermedius* records in N. Tyrol, Austria, **Psenner (3)**.

Eliomys melanurus new to Turkey, **Misonne (1)**; *E. quercinus* thyroid activity in hibernation, **Lachiver and others**; parental care, photos, **Zimmermann (1)**.

Glis glis taxonomy, distribution and ecology in Georgia, **Shidlovski (2)**; June births, **Vietinghoff-Riesch**.

Muscardinus avellanarius structure and situation of summer nests, **Hurrell (1)**; variations in tail hair length, **Mohr (6)**; ecology in Saxony, **Meyer, U.**

†*Peridyromys micio* **sp. nov.** Oligocene, Hoogbutsel, Boutersem, near Louvain, Belgium, p. 6, **Misonne (2)**.

Seleviniidae

Selevinia betpakdalensis distribution, **Ismagilov (2)**.

Zapodidae

Napaeozapus insignis experimental torpidity, **Klein, H. G.**

Sicista betulina ecology and distribution in Stavropol region, **Dal & Chugunov**; biology in Ukraine, **Modin (2)**.

Dipodidae

Jerboas of Egypt, **Setzer (3)**.

Alactagulus pumilio first record Iran, **Petter and others**.

Allactaga euphratica new to Turkey, **Misonne (1)**.

†*Dipus sagitta septentrionalis* **subsp. nov.** Pleistocene, Nezametnaya near Kuibishev, Russia, p. 162, **Gromov (4)**.

Jaculus blanfordi range extension in Iran, **Petter and others**; *J. turcmenicus* occurrence in N. Kara-Kum, ecology, morphology, member of *J. orientalis* group, **Stalmakova**.

Suborder Hystricomorpha

Interrelationships of New and Old World hystricomorphs, **Landry (3)**.

Echimyidae and Erethizontidae placed in one superfamily, **Landry (3)**.

Miocene hystricomorphs from Colombia, **Fields**.

Hystricidae

Hystrix hirsutirostris study of hair, bristles and spines, **Lochte**.

†*Hystrix primigenia* Pliocene, Macedonia, descr. figs., **Risto (1)**.

Erethizontidae

Erethizon dorsatum adaptation to desert vegetation habitat in Arizona, **Reynolds**; status and distribution in upper Michigan, **Golley (2)**; distribution in Connecticut, **Roth (2)**; *E. d. epixanthum* as highway casualty, **Dexter (2)**.

CAVIIDAE

Cavia dom. social relationships, **King, J. A. (1).**

†*Prodolichotis pridiana* **sp. nov.** Miocene, vicinity of Villavieja, Department of Huila, Colombia, p. 360, **Fields.**

DINOMYIDAE

†*Dinomys* revised description, **Fields.**

†*Olenopsis aequatorialis* Miocene, Colombia, additional description, figs., **Fields.**

†*Scleromys colombianus* **sp. nov.** Miocene, near Villavieja, Department of Huila, Colombia, p. 302, *S. schürmanii* Stehlin additional descr. figs., **Fields.**

DASYPROCTIDAE

Dasyprocta aguti habits and actions in captivity, **Roth-Kolar.**

CHINCHILLIDAE

Chinchilla study of reproductive potential, **Hillemann & Tibbitts (1)**; reproductive performance, **Hillemann & Tibbitts (2)**; reproductive anatomy and function, **Hillemann and others**; breeding in Germany, **Bickel.**

Lagidium peruanum isolated lowland colony in Peru, **Pearson.**

CAPROMYIDAE

Myocastor coypus limb skeleton, **Hoffman & Schröder (1)**; limb bones, **Hoffman & Schröder (2)**; habits and status as feral animal, **Woodson**; washing food, **Ehrlich & Einszporn**; daily activity rhythm, **Lomnicki**; status in Britain, **Davis, R. A. (1)**; mass mortality in Poland, environmental factors, **Ehrlich**; in Daghestan, **Siroechkovski**; feral status in Florida, **Griffo**; feral in Louisiana, biological study, **Harris.**

†*Neoreomys huilensis* **sp. nov.** Miocene, vicinity of Villavieja, Department of Huila, Colombia, p. 376, **Fields.**

OCTODONTIDAE

Spalacopus poeppigii habits in Chile, fig., **Gigoux.**

PETROMYIDAE

Petromys removed from octodonts, **Landry (2).**

?HYSTRICOMORPHA *incertae sedis*

BATHYERGIDAE

Bathyergidae transferred to Hystricomorpha, **Landry (3).**

Heterocephalus glaber field and laboratory studies, anatomy, taxonomic and genetic conclusions, **Hill and others**; study of colonies in Ethiopia, **Starck (1).**

CTENODACTYLIDAE

Ctenodactylidae transferred to Hystricomorpha, **Landry (3).**

ORDER CETACEA

Cetacean ecology and paleoecology, **Kellogg & Whitmore.**

Thermal regulation in whales, **Kanwisher & Leivestad.**

Hearing in Cetacea, **Reysenbach de Haan.**

Migration in Cetacea, **Clarke.**

Whales entangled in deep sea cables, **Heezen.**

Review of whale marking methods, tests of new mark, **Chittleborough & Godfrey.**

Whale marking in Antarctic 1955/56, **Ruud & Øynes.**

Whale marking results, Antarctic 1956/57, **Brown, S. G.**

Antarctic whale marking progress 1945 to 1957, **Clarke & Brown.**

Large whale distribution in Atlantic, **Kirpichnikov.**

Key to Cetacea of New England, **Grayce (2).**

1956 British Cetacean strandings, **Fraser, F. C. (2).**

Dorset whale strandings, **Benham.**

Cetacea of Dale Fort area, Pembroke, **Bassindale & Barrett.**

Whaling statistics, 1955, **Jahn and others (1).**

Whaling statistics, Antarctic '55–'56, **Jahn and others (2).**

Antarctic whaling 1956/57, **Anon (6).**

World catch 1956, **Anon (5)**.

Cetacea of U.S.S.R., **Tomilin.**

SUBORDER ODONTOCETI

Records and status of smaller toothed whales from E. Canadian waters, **Sergeant & Fisher.**

PLATANISTIDAE

Inia geoffrensis habitat, habits, photos, **Allen & Neill.**

ZIPHIIDAE

†*Araeodelphis* **gen. nov.** for type species *A. natator* **sp. nov.** Miocene, Calvert Cliffs, 1 m. S. of Chesapeake Beach, Calvert County, Maryland, p. 313, **Kellogg.**

Berardius arnuxi confined to pools in sea-ice, **Taylor (1).**

Mesoplodon bidens stranding of two in Norway, review of breeding and growth data, **Jonsgard & Høidal;** first record Canadian waters, **Sergeant & Fisher;** *M. gervaisi* Trinidad stranding, **Twist & Twist;** *M. mirus* stranding in Florida, comparative distribution in relation to *M. gervaisi*, comparative skull characters, **Moore & Wood.**

†*Phocageneus* Leidy generic characters, *P. venustus* Leidy identity of type, second known specimen recorded from Miocene, Calvert Cliffs, Maryland, detailed study, **Kellogg.**

Ziphius cavirostris notes on an Italian specimen, **Tamino.**

PHYSETERIDAE

Physeter catodon underwater sounds, **Worthington & Schevill;** review of occurrences and routes in Mediterranean, **Bolognari;** with rudimentary hind limbs, **Ogawa & Kamiya.**

MONODONTIDAE

Delphinapterus leucas weight and histology of pancreas, **Quay (2).**

DELPHINIDAE

Dolphins helping sick associates, **Grzimek (6).**

Globicephala melaena status and habits in E. Canadian waters, **Sergeant & Fisher.**

Lagenodelphis **gen. nov.** for type species *L. hosei* **sp. nov.,** mouth of Lutong River, Baram, Borneo, p. 496, **Fraser, F. C. (1);** note on colour, **Harrisson (2).**

Lagenorhynchus albirostris, L. acutus, first record for Canada, **Sergeant & Fisher.**

Orcinus orca confined to pools in sea-ice, **Taylor (1);** stranding on Florida coast, details of skull and dentition, **Caldwell and others.**

Sotalia teuszii data on specimens caught on Senegal coast, photos, no vegetable remains but fish in stomachs, **Cadenat & Paraiso.**

Stenella caeruleo-albus embryology, preliminary note, **Nishiwaki (2).**

Tursiops truncatus breeding behaviour, **Tavolga & Essapian;** first record E. Canadian waters, **Sergeant & Fisher;** carrying shark to surface, **Norris, C. B.**

PHOCAENIDAE

Phocoena vomerina photos and data of California specimen, **Boolootian (1), (2).**

Phocoenoides dalli California stranding, large size, **Butterworth.**

SUBORDER MYSTICETI

Age characteristics of ear plugs in fin whales, **Nishiwaki (1).**

Fin whale linear measurements, statistical analysis, **Ichihara.**

Fin whale breeding biology problems, **Zemsky (2).**

Baleen whale food study, **Nemoto.**

Distinguishing characters of traces of corporea lutea of pregnancy and ovulation in whalebone whales, **Zemsky (1).**

Polarity in whale ovaries, **Laws (3).**

Frequency of twinning in fin whales, **Kimura.**

Cyclopean fin whale foetus, **Nishiwaki (3).**

Miocene whale jaw from Czechoslovakia, **Musil (1).**

RHACHIANECTIDAE

Eschrichtius glaucus calving grounds in Gulf of California, **Gilmore & Ewing.**

BALAENOPTERIDAE

Balaenoptera acuto-rostrata specific skeletal characters, *B. davidsoni* Scammon a synonym, **Omura (2)**; confined to pools in sea-ice, **Taylor (1)**; foetal brain, **Friant (1).**

Caperea marginata recent strandings in Tasmania, morphology, photos, list of all known specimens, status and possible habits in relation to structure, **Davies & Guiler.**

Megaptera nodosa stocks in Antarctic, question of extension of open season, **Jonsgard and others**; Bellingshausen Sea stocks, **Symons & Weston**; weights and oil yields in Antarctic, **Ash**; off Queensland with *Euphausia* in stomach, comment, **Marr**; caudal presentation at birth, **Dunstan.**

BALAENIDAE

?*Eubalaena sieboldii* morphology of two specimens taken for research, **Omura (1).**

ORDER CARNIVORA

Carnivore evolution, **Kretzoi.**

Serological relationships in carnivora, **Pauly & Wolfe.**

†SUBORDER CREODONTA

†OXYAENIDAE

†*Patriofelis ulta* Eocene Wyoming, descr. figs., review of species, **Gazin (2).**

SUBORDER FISSIPEDA

Food intake of small carnivores, **Howard (2).**

Carnivores of Morocco, keys, characters, habits, distribution, **Panouse.**

Pleistocene carnivora from Makapansgat, Transvaal, **Ewer (2).**

†Carnivora *inc. sed.* First record Tertiary carnivore from S. China, **Chow (4).**

CANIDAE

Olfactory acuity tests on dogs, **Ashton and others (1).**

†*Aelurodon* cf. *mortifer* Pliocene, Oklahoma, descr. figs. **Kitts (2).**

Alopex lagopus histology of sexual cycle, **Sokolov, N. N.**; *A. l. innuitus* uterine pigmented areas, **McEwen & Scott.**

Canis aureus aureus occurrence, status and taxonomy in Hungary, **Szunyoghy**; *C. australis* Kerr 1792 placed on Official List for Falkland Islands wolf, **Opinion 452**; *C. dingo* Meyer 1793 placed on Official List, *C. antarcticus* Kerr 1792 suppressed, **Opinion 451**; short account of habits, **Felten (4)**; *C. hallstromi* **sp. nov.** Lavani Valley, Huri-Duna country, southern highlands of Papua, p. 93, **Troughton (1)**; *C. lupus* ecological role, **Murie (2)**; age changes, **Geptner & Turova-Morozova**; post war occurrences in Lower Saxony, **Müller-Using (1)**; *C.* dom. senses and reactions, **Schuller (1)**; studies on olfactory acuity, **Becker and others**; breeding and maintenance of sledge dogs, **Taylor (2)**; evolution, **Rosen**; blood picture, **Pujman and others**; reactions in zoos, **Schuller (3)**; dental caries in Hawaii, **Svihla (1).**

†*Canis tamanensis* **nom. nov.** for *C. cuonoides* Vereshchagin 1951 *nec C. cyonoides* Pei 1934, p. 24, **Vereshchagin (3).**

Fennecus zerda breeding in captivity, **Petter (3)**; **Volf.**

Nyctereutes procyonoides recorded from Poland, **Dehnel.**

†*Osteoborus crassapineatus* **sp. nov.** Miocene, Pierce, Polk County, Florida, p. 1, **Olsen (1)**; †*O. validus* Pliocene, Oklahoma, descr. and taxonomy, **Kitts.**

Urocyon cinereoargenteus failure of ear tags for marking, **Lord.**

Vulpes vulpes intensive study of behaviour and breeding biology, **Tembrock (1)**; behaviour and life history, **Tembrock (2)**; new mutations in fur breeding, **Schmidt, F. (2)**; selection in small rodent prey, **Lockie**; economic importance in Esthonia, **Ling (3)**; food study in Russia, **Pavlov & Kiris**; food analysis in Russia, **Gruzdev and others**; geographical distribution of sarcoptic mange in USSR, **Chirkova**; *V. v. crucigera* prey species after myxoma-

tosis, **Thompson**; eating fly larvae and beetles, **Lever**; prey of golden eagle, **Gordon, S.**; in London suburbs, **Shipp**; **Upcott.**

URSIDAE

Comments on Erdbrink's review of Old World bears, **Conti.**

Biology and behaviour of bears, **Meyer-Holzapfel** (2).

"Abominable snowman" evidence reviewed, bear theory favoured, **Pranavananda** (1).

†*Agriotherium intermedium* **sp. nov.** Pliocene, Weze, near Dzialoszyn, Poland, p. 11, **Stach.**

Thalarctos maritimus range and habits, photo of winter hole, **Pedersen, A.** (3); biology, **Pedersen, A.** (5); subfossil deformed leg bone, **Rozycki.**

Tremarctos ornatus evidence of possible occurrence in Panama, **Hershkovitz** (3).

Ursus review of brown bears, photos, **Mohr** (1); *U.* status and habits in Alaska, **Murie** (1); *U. americanus* live-trapping and handling techniques, **Erickson**; distribution, status and racial identity in Alabama, **Chermock**; blood values, **Jacobs**; cub taken by eagle, **Nelson, J. N.**; *U. a. hamiltoni* **subsp. nov.** Big Falls, Humber River, Newfoundland, p. 538, **Cameron**; *U. arctos* seasonal distribution in Caucasus in relation to nut harvest, **Chernyavskaya**; damage to trees in Carpathians, **Grimalski & Zagaikevich**; recently recorded in Rondane area, Norway, **Barth**; *U. a. middendorffi* seasonal food study, **Clark**; *U. horribilis* in legend and history, **McCracken.**

†*Ursus deningeri* Pleistocene, Czechoslovakia, descr. figs., **Musil** (2); †*U. spelaeus* age changes in teeth, **Bachler**; Darwinian selection in tooth wear, **Kurten** (3); diseased humerus, **Drexler**; problems of skull deposits in S. Germany, **Heller**; hunting and uses in Stone Age in Jugoslavia, **Brodar**; reputed claw marks on cave wall in Italy, **Allegranzi & Bartolomei.**

PROCYONIDAE

Bassariscus astutus recorded from Dallas County, Texas, **Stallcup** (2).

Nasua narica behaviour in wild and captivity, **Ingles**; *N. n. pallida* recent occurrence in Northern Arizona, **Wetherill.**

Potos flavus boothi **subsp. nov.** Pueblo Nuevo, Solistahuacan, 60 m. N. of Tuxtla Gutierrez, Chiapas, Mexico, 7000 ft. p. 1, **Goodwin.**

Procyon lotor study of "washing" habit, **Gewalt** (1); growth and reproduction, **Aliev**; blood values, **Jacobs**; status in Iowa since 1930, **Sanderson, G. C.**; food study in S.E. Russia, **Rukovsky**; *P. maynardi* a race of *P. lotor*, **Koopman and others.**

MUSTELIDAE

Amblonyx cinerea habits of young in captivity, **Hendrickson, J.** (2).

Conepatus mesoleucus range extension in Arizona, **Musgrove & Hoffmeister.**

Enhydris lutris past and present status, field and captivity observations, photos, **Kenyon.**

†*Eomellivora* (*Perunium*) *piveteaui* **nom. nud.** Pliocene, Turkey, p. 43, **Ozansoy** (2).

†*Galictis sorgentinii* **sp. nov.** Pleistocene, Buenos Aires Prov., Argentine, p. ?, **Reig** (2).

Grison (*Grisonella*) *cuja* recorded from highlands of Peru, **Pearson.**

Gulo gulo status and habits in Scandinavia, photos of young, **Pedersen, A.** (1); habitat and range, **Krott.**

†*Leptarctus* characters, "*Mephititaxus*" *ancipidens* a *Leptarctus*, **Olsen** (3).

Lutrogale perspicillata maxwelli **subsp. nov.** Abusakhair, 5 m. W. of Persian frontier, 35 m. S.E. of Amara, Iraq, p. 710, **Hayman** (2).

Martes americana population study in relation to exploitation, **Quick** (2); breeding data and parasites, **De Vos** (3); population study and home range in Montana, **Hawley & Newby**; *M. a. actuosa* effect of exploitation on population, **Quick** (1); *M. a. origenes* recent sight records in Colorado, **Yeager & Remington**; *M. a.*, *M. pennanti* past and

present distribution in N. America, **Hagmeier (1)**; *M. foina* local report in Holland, **Timmerman**; *M. f. intermedia* first Nepal record, **Biswas & Khajuria**; *M. martes* age determination, **Yurgenson**; selection in small rodent prey, **Lockie**; *M. zibellina* food analysis in N.W. Yakutia, **Tavrovsky & Shitarev**; *M. zibellina princeps* study of fertility in relation to food supply, **Bayevsky.**

Meles meles reproduction, **Neal**; status, distribution and habits in Chilterns, **Hager**; foetal 'monster,' **Didier & Cantuel**; observations in Hastings area, **Loft**; suggested purpose of colouration, **Burton (7).**

Mephitis macroura richardsoni **subsp. nov.** Matagalpa, Nicaragua, 2000 ft. p. 3, **Goodwin.**

†*Mephititaxus* White synonym of *Leptarctus* Simpson, **Olsen (3)**; †*M. ancipidens* Miocene, Florida, lower dentition descr. figs., generic position, **Olsen (2).**

Mustela altaica temon altitudinal record in Nepal, **Biswas & Khajuria**; *M. erminea* colour change in Switzerland, **Rothschild & Lane**; winter store of prey in nest-boxes, **Zimmermann (4)**; *M. e.*, *M. nivalis* rick populations, **Davis, R. A. (3)**; *M. e. muricus*, *M. frenata nevadensis* new locality records in Utah, **Egoscue (1)**; *M. frenata* recorded from highlands of Peru, **Pearson**; *M. minuta* occurrence in Germany, distinctive characters, **Haltenorth (1)**; occurrence in Lower Saxony, **Wessel**; *M. m. monticola* further Austrian records, **Psenner (2)**; *M. nivalis*, *M. erminea* skull variation in relation to distribution and sex, *M. minuta* Pomel a subspecies of *M. nivalis*, **Reichstein (3)**; *M. rixosa* recorded from Churchill, Manitoba, **Smith & Foster.**

Mustela (*Lutreola*) *lutreola* recent record in Holland, **Wijngaarden & Vries**; *M.* (*L.*) *vison* chromosome study, **Lande (2)**; light control breeding experiments, **Khronopulo & Drosdova**; new mutations in fur breeding, **Schmidt, F. (2)**; osteological age characters, **Greer**; age ratios in wild population, **Hibbard (2)**; trapped in Dorset, **Hemsley**; introduced in Altai, status, **Ternovsky.**

Mustela (*Putorius*) *furo* brain convolutions and endocranial cast, **Darlington**; chromosomes, **Lande (1)**; *M.* (*P.*) *putorius*, *M.* (*P.*) *furo* and *M.* (*P.*) *vison domestica* breeding and hybridization, **Rempe**; *M.* (*P.*) *putorius* innate and learnt technique of killing prey, **Eibl-Eibesfeldt (4)**; *M.* (*P.*) *vison domestica* **subsp. nov. Haltenorth** in **Doderlein**, Bestimmungsbuch für deutsche Land- und Susswassertiere. Wirbeltiere. 2. erweiterte Auflage, 1955 p. 179 (for farm mink).

†*Potamotherium valletoni* detailed study of skeleton and teeth, phylogeny, mode of life, **Savage.**

Pteronura, substitution of specific name *brasiliensis* Gmelin (J. F.), 1788 for *sambachii* Gray (J. E.), 1837, **Direction 79.**

Spilogale ? *interrupta* archaeological evidence for former existence in Illinois, **Parmalee & Hoffmeister**; *S. putorius* Kentucky records, **Barbour.**

Vormela sarmatica Ukraine records, **Gavrilenko.**

VIVERRIDAE

Colour vision, clear vision and instinct in Viverridae, **Dücker.**

Cryptoprocta phylogeny, position in Carnivore evolution, recognition of superfamily Cryptoproctoidea, **Kretzoi.**

†*Cynictis penicillata brachyodon* **subsp. nov.** Pleistocene, Makapansgat, Potgietersrust, Transvaal, p. 57, **Ewer (2).**

Genetta suahelica colour vision, instinct, development in captivity **Dücker.**

Herpestes smithii zeylanius longevity **Hill, W. C. O. (1).**

HYAENIDAE

Crocuta crocuta placenta, detailed study, **Morton.**

†*Crocuta crocuta spelaea* remains from Holland, comparative study, **Kruizinga (1)**; †*C. senyureki* **nom. nud.** Pliocene, p. 43, pl. 2, *C. arambourgi* **nom. nud.** Pleistocene, p. 45, both Turkey, **Ozansoy (2)**; †*C. ultima* Pleistocene, Chekiang, **Pei & Chiu.**

Hyaena brunnea female sex organs, **De Boom.**

†*Hyaena sivalensis* Pleistocene, Odessa, descr. figs., **Yatzko.**

†*Ictitherium prius* p. 41, *I. arambourgi*, *I. intuberculatum* p. 43, **nom. nud.** Pliocene, Turkey, **Ozansoy (2)**.

FELIDAE

Colour vision, clear vision and instinct in Felidae, **Dücker.**

Significance of cat play with prey, **Leyhausen.**

Notes on Pleistocene Felidae of C. Europe, **Thenius (2)**.

†*Epimachairodus romeri* **sp. nov.** Pliocene, Kucukyozgat, Ankara, Turkey, p. 8, **Senyurek.**

Felis concolor fatal accidents in hunting prey, **Gashwiler & Robinette**; *F. jacobita* first record from Peru, habitat, comparative skull characters, **Pearson**; *F. silvestris* Schreber (1777) validated, *F. ferus* Schreber (1775) rejected, **Opinion 465**; *F. s.* sensu latu, history, morphology, taxonomy, life history, **Haltenorth (3)**; *F. temmincki* photo in captivity of blotched form, breeding in captivity, **Pang-Chieh**; *F. yagouaroundi* habits of young in captivity, **Cutter**; *F. dom.* breeding and genetics, **McCrae**; fertile male tortoiseshell, **Jude & Searle**; dominance hierarchy tests, **Baron and others**; experimental rat control study, **Davis, D. E. (4)**; walks 170 miles, **Hammond**; behaviour following bilateral amygdalectomy, **Morgane & Kosman.**

†*Felis pamiri* **nom. nud.** Pliocene, Turkey, p. 43, **Ozansoy (2)**; *F. spelaea* found in a Lombardy cavern, **Castiglioni**; †*F. teilhardi* Pei, Pleistocene, Choukoutien, systematic position, **Kurten (2)**.

Lynx review of species, photos, **Lindemann**; *L. canadensis* recent Wisconsin records, **Doll and others**; *L. lynx* recent occurrences in Saxony, **Boback**; *L. l. pardina* ecology in Coto Donana, S. Spain, **Valverde**; *L. rufus* suitability for zoology courses, **Pfeiffer (1)**; electrocardiogram, **Pfeiffer (2)**; *L. r. texensis* first record, Dallas County, Texas, **Stallcup (1)**.

†*Machairodus darti* Toerien a synonym of *Therailurus barlowi* (Broom), p. 64, **Ewer, (2)**; †*M. erki* **nom. nud.** Pliocene, Turkey, p. 45, **Ozansoy (2)**; †*M. palanderi*, *M. tingii*, Pliocene, Shansi, descr. figs., **Chang.**

†*Megantereon piveteaui* **nom. nud.**, Pliocene, Turkey, p. 43; *M. hoffstetteri* **nom. nud.** p. 45, **Ozansoy (2)**.

Oncifelis geoffroyi first record for Chile, notes on Chilean wild cats, **Mann (1)**.

Panthera leo atrichia in captivity, **Menon**; *P. l.* attacking *P. pardus*, **Edmond-Blanc (1)**; *P. l. persica* management problems in Gir Forest, **Talbot (2)**; history and habits in India, **Mosse**; 1955 census in Gir Forest, **Wynter-Blyth**; *P. pardus* status in N. Caucasus, **Kovaleva**; *P. tigris* at high altitudes in Himalayas, **Gupta**; occurrence at 13,500 feet in Sikkim, **Jayal**; scent trails and "pooking," **Boswell.**

Uncia uncia distribution in W. Tian-Shan, **Shaposhnikov (2)**.

SUBORDER PINNIPEDIA

Migration in pinnipeds, **Clarke.**

Pinnipeds of Chile, **Housse.**

OTARIIDAE

Arctocephalus gazella distribution in subantarctic seas, possibility of subdivision into geographical races, **Paulian (1)**; status on Gough Island, **Holdgate**; *A. pusillus* breeding colony in S.W. Africa, **Meschkat.**

Callorhinus ursinus present population, **Scheffer**; study of dental characteristics, **Chiasson.**

Zalophus californianus breeding data, pathology in zoo, **Ehlers**; *Z. wollebaeki* habits and photos, **Eibl-Eibesfeldt (1)**; correct name for Galapagos sea-lion, **Eibl-Eibesfeldt (2)**.

ODOBENIDAE

Proposal to validate family-group name Odobenidae J. A. Allen, 1880, **Morrison-Scott.**

Odobenus Brisson 1762, with *O. rosmarus* Linn. 1758, placed on Official List, **Opinion 467**; *O. r.* history and status in N. Pacific, **Fay**; protection, **Kleinberg.**

Rosmarus Brunnich 1771 placed on Official Index of Rejected Names, **Opinion 467.**

PHOCIDAE

Heat metabolism and insulation of hair seals, **Irving & Hart.**

Cystophora cristata habits, photos in captivity, **Mohr (2)**; status, population study, reproduction and economic importance in the E. Greenland sealing industry, **Rasmussen.**

Halichoerus grypus problems of distribution and varying breeding seasons, **Davies, J. L. (2)**; British ringing and returns, Report No. 1. **Mammal Society of the British Isles**; counts on Farne Is., tagging results, **Hickling**; mortality and morbidity in young on Farne Is., **Ogilvie**; counts on Lundy, **Anon (11)**; ringing results in W. Wales, recoveries, **Johnson**; spring pupping in Pembrokeshire, **Backhouse & Hewer (1)**; spring breeding on Ramsay Island, **Backhouse & Hewer (2)**; first record of breeding on Isle of May, **Eggeling**; aerial study of breeding colony on Gasker, Outer Hebrides, **Boyd**; study of Shillay, Hebrides, colony, comparison with Ramsey Island, **Hewer**; red-headed variation, **Hewer & Backhouse**; status on Ushant, recoveries of Welsh marked animals, **Roux**; recorded from Dutch coast, **Kristensen**; general habits, **Weir**; 41 year longevity record, **Matheson.**

Hydrurga leptonyx biology at Heard Island, **Brown K. G.**; growth rates, **Laws (2)**; occurrence at Amsterdam Island, **Paulian (2).**

Leptonychotes weddelli biological notes, **Arsenyev.**

Lobodon carcinophagus large scale mortality, **Laws & Taylor**; characters of a pup, **King, J. E.**; biological notes, **Arsenyev.**

Mirounga angustirostris analysis of ilo, **Tsuyuki**; *M. a.*, *M. leonina* life history, photos, **Mohr (7)**; *M. l.* general behaviour and breeding physiology, **Laws (1)**; status and habits on Amsterdam and St. Paul Islands, **Paulian (2)**; reproduction and sex physiology in female, **Gibbney**; two recent occurrences in Mascarenes, **Vinson**; hauling-out grounds on Antarctic continent, **Ingham.**

Monachus monachus skull measurements and figures, **Panouse**; *M. schauinslandi* count on French Frigate Shoals, **Svihla (2).**

Phoca caspica taxonomic importance of morphology of nasal bones, **Gadzhiev**; *P. groenlandica* status, population study, reproduction and economic importance in E. Greenland sealing industry, **Rasmussen**; Pleistocene, Quebec, **Sternberg**; *P. hispida* habits in Canadian Arctic, **Ellis**; *P. vitulina* mating behaviour and breeding biology, **Venables & Venables**; on Dutch coast, status and economic position, **Bemmel**; development in captivity, **Lockley**

†ORDER CONDYLARTHRA

†PHENACODONTIDAE

†*Almogaver condali* Crusafont-Pairo & Villalta Comella, 1954, not a primate, emended diagnosis, **Crusafont-Pairo & Villalta-Comella.**

†*Phenacodus villaltae* **sp. nov.** Eocene, Barranc de Forals, Sierra de Montllobar, Tremp, Lerida, Spain, p. 46, **Crusafont-Pairo.**

†ORDER LITOPTERNA

†MACRAUCHENIIDAE

Evolution of trunk in Macrauchenidae, **Rusconi.**

†ORDER NOTOUNGULATA

†SUBORDER TOXODONTA

†TOXODONTIDAE

†*Mixotoxodon* **gen. nov.** for type species *M. larensis* **sp. nov.** Pleistocene, near San Miguel, Lara, Venezuela, 35 km. S.W. of Barquisimeto, p. 6, **van Frank.**

Family *incertae sedis.*

†*Gallardodon* **gen. nov.** for type species *G. inexcessus* **sp. nov.** Tertiary, Argentine, p. ?, **Marelli.**

ORDER TUBULIDENTATA

ORYCTEROPODIDAE

Orycteropus afer foetal membranes, **Mossman**; *O. a. angolensis* **subsp. nov.** Bumbo, near Capangombe, west of Schella mountains, S. Angola, p. 126, **Zukowsky & Haltenorth.**

†*Orycteropus pottieri* **nom. nud.** Pliocene, Turkey, p. 43, pl. 1, **Ozansoy (2).**

†ORDER PANTODONTA

†CORYPHODONTIDAE

†*Procoryphodon* **gen. nov.** p. 73 for *P. primaevus* **sp. nov.** Eocene, Hashiata, S. Gobi, Mongolia, p. 74, review of characters and distribution of pantodonts, **Flerow (2)**.

†ORDER DINOCERATA

†UINTATHERIIDAE

Systematic review of Mongolian Dinocerata, **Flerov (1)**.

†*Mongolotherium efremovi* **sp. nov.** Eocene, neighbourhood of Ulan-Bulak, east of Tsagan-Ula Range, Nemegetinsk basin, S. Gobi, p. 37, **Flerov (1)**.

ORDER PROBOSCIDEA

SUBORDER ELEPHANTOIDEA

Fossil proboscideans recorded from Serbia, **Petronijevic.**

Proboscideans from Miocene of Lower Bavaria, **Grimm.**

†GOMPHOTHERIIDAE

†*Choerolophodon anatolicus* **nom. nud.** Pliocene, Turkey, p. 43, **Ozansoy (2)**.

†*Haplomastodon waringi* the sole S. American species, *H. chimborazi*, *H. guayasensis* and "*Stegomastodon*" *brasiliensis* all synonyms, **Simpson & Couto.**

†*Haplomastodon* (*Aleamastodon*) synonym of *Haplomastodon*, **Simpson & Couto.**

†*Platybelodon grangeri* Miocene, N. Kirghizia, new distribution record, **Alexeeva.**

†*Serridanancus estremadurensis imperfecta* **subsp. nov.** Miocene, Castelnaud'Arbieu, Biros, Gers, France, p. 53, **Bergounioux & Crouzel.**

†*Serridentinus* sp. Pliocene, Oklahoma, descr. fig., **Kitts (2)**; *S. filholi* Frick synonym of *Trilophodon angustidens minor* Bergounioux, Zbyszewski & Crouzel, **Bergounioux & Crouzel.**

†*Synconolophus meteai* **nom. nud.** p. 41, *S. erki* **nom. nud.** p. 43, Pliocene, Turkey, **Ozansoy (2)**.

†MAMMUTIDAE

Review of S. American mastodonts, **Simpson & Couto.**

†*Mastodon longirostris* × *M. arvernensis* intermediate skull, Pliocene, Austria, **Zapfe.**

†*Miomastodon depereti* Osborn identical with *Trilophodon olisiponensis* Zbyszewski, **Bergounioux & Crouzel.**

ELEPHANTIDAE

Review of genera of Elephantinae, **Dubrovo.**

Elephant ages, **Bigalke (2)**.

Abnormal growths in elephant ivory, **Albro.**

†*Archidiskodon meridionalis* recent find on coast of Sea of Azov, **Ogulchanski.**

Elephas maximus field observations of "giant swamp race" in Ceylon, **Tennekoon**; list of best tusks, **Stracey (1)**; tusk weights and lengths, **Morris, R. C.**; fracture and healing of tusk, **Schulze**; throat anatomy, **Rosenbauer**; intelligence, **Rensch (2)**; musical stimuli tests, **Reinert.**

†*Elephas cf. africanavus* new to Pliocene of Morocco, **Choubert & Ennouchi**; †*E. pomeli*, *E. atlanticus* Pleistocene, Morocco, descr. figs., **Ennouchi (2)**.

†*Hesperoloxodon* synonym of *Palaeoloxodon*, **Dubrovo.**

Loxodonta africana size in Upper Senegal, **Vezia**; history and subfossil distribution in Morocco, **Ennouchi** in **Panouse**; field observations on birth, **Poppleton (1), (2)**; recovery and rate of growth of tusk, **Colyer & Miles**; history and photos of heaviest tusks, **Hill, J. E.**; *L. a. cyclotis* farm in Congo, **Grzimek (3)**.

†*Mammuthus primigenius* tusk from Sweden, **Thorslund**; first find in Transcaucasia, **Burchak-Abramovich**; new finds Macedonia, **Risto (2)**.

†*Parelephas* synonym of *Mammuthus*, **Dubrovo.**

†*Phanagoroloxodon* **gen. nov.** for type species *P. mammontoides* **sp. nov.** p. 333, Pleistocene, N.W. Caucasus, Kuban Province, **Garutt.**

†*Stegodon cf. orientalis* Pleistocene, Chekiang, **Pei & Chiu**; †*S. trigonocephalus florensis* **subsp. nov.** Pleistocene, Ola Bula, Soa Plateau, Central Ngada, Flores, p. 120, **Hooijer (4)**.

†SUBORDER DEINOTHERIOIDEA

†DEINOTHERIIDAE

†*Dinotherium* revision, key, characters, evolution, **Gräf.**

ORDER HYRACOIDEA

PROCAVIIDAE

Dendrohyrax dorsalis characters, habits, voice, function of dorsal glandular hairs, **Rahm (2)**; spermatogenesis, **Tuzet and others.**

ORDER SIRENIA

SUBORDER TRICHECHIFORMES

Dugongs and manatees, history and biology, **Mohr (3)**.

DUGONGIDAE

†*Felsinotherium* cf. *serresi* Pliocene, Morocco, first definite Sirenian record, **Ennouchi (1)**.

Rhytina stelleri comparative morphology of skin, possible relationship to Proboscidea, **Haffner (1)**; study of skin, **Haffner (2)**.

TRICHECHIDAE

Trichechus manatus swimming and general description, **Burton (2)**; *T. m. latirostris* observations on young born in captivity, **Moore, J. C. (2)**.

†SUBORDER DESMOSTYLIFORMES

†DESMOSTYLIDAE

Desmostylidae of Japanese Miocene, review of characters, **Shikama.**

Cornwallius basis of new family Cornwalliusidae, **Shikama.**

†*Desmostylus* new find Iwate Prefecture, Japan, **Onodera (1)**; †*D.* cf. *japonicus* Miocene, Ichinoseki City, Iwate Prefecture, descr. figs., **Onodera (2)**; †*D.* cf. *minor* possibly from Oligocene, Hokkaido, **Minato and others.**

ORDER PERISSODACTYLA

SUBORDER HIPPOMORPHA

EQUIDAE

Adaptive reduction of lateral metapodials in Equidae, **Gadzhiev & Gadzhiev.**

Report of a fertile female mule, **Baldwin.**

Primitive Equidae of Spain, **Castejon.**

Pleistocene Equidae of Texas, **Quinn.**

†*Anchitherium aurelianense* Miocene, Nanking, descr. figs., **Chow & Chang-Kong.**

†*Asinus conversidens* Pleistocene, Texas, descr. figs., **Quinn.**

Equus caballus in prehistoric and early historic times, **Hancar**; distinct behaviour types of Iceland ponies, **Ebhardt**; 62 year longevity record details, **Matheson**; *E. przewalskii* not found in Sinkiang in 1956, **Pang-Chieh**; history, distribution, status, notes and photos in zoo, **Frechkop (2)**; *E. p.*, *E.* dom. variation in lumbar vertebrae numbers, **Lengerken**; *E. zebra hartmannae* case of shadow stripes, **Trumler.**

†*Equus* of pre-Columbian age from Yucatan, **Ray**; †*E. bressanus* Pleistocene, S. Germany, comparative study, **Lehmann, U. (1)**; †*E. caballus laurentius* Pleistocene, Texas, dating considerations, p. 24, *E. midlandensis* **sp. nov.** Pleistocene, Scharbauer ranch, 8 m. S.W. of Midland, Midland County, Texas, p. 24, **Quinn**; †*E. sanmeniensis* Pleistocene, Sinkiang, descr. figs., **Chow (2)**.

†*Equus* (*Asinus*) *hydruntinus* Pleistocene, Cyrenaica, theory of Asiatic origin, **Blanc.**

Hemionus hemippus reported surviva in N. Syria, **Misonne (1)**.

†*Hipparion* sp. Miocene, Morocco, comparative study, **Ennouchi & Jeannette**; palaeontological history, stratigraphic correlations, **Ozansoy (1)**; †*H. ankyranum* **nom. nud.** Pliocene, Turkey, p. 43, **Ozansoy (2)**; †*H. sitifense* Pliocene, Algeria, comparative study, **Arambourg (2)**.

Onager Brisson 1762 valid for Asiatic and fossil American asses, *Hemionus* F. Cuv. and *Tomolabis* Cope synonyms, **Quinn.**

†*Onager* systematic review of Pleistocene Texas forms, *O. altidens* **sp. nov.** Pleistocene, Blanco Creek, Powers Ranch, Berclair, Bee County, Texas, p. 16, **Quinn.**

†*Orohippus* Eocene, Wyoming, taxonomic revision, characters, five species only recognised, **Kitts (1)**.

†Brontotheriidae

†*Matetelmatherium* cf. *browni* Eocene, Kwangsi, descr. figs., **Chow (4)**.

†*Rhinotitan orientalis* **sp. nov.** Eocene, Primorski region, Artem, near Vladivostok, p. 187, **Yanovskaya**.

†Chalicotheriidae

Chalicothere from Eocene, Georgia, **Gabunia**.

Suborder Ceratomorpha

†Helaletidae

†Cf. *Deperetella* sp. Eocene, Kwangsi, descr. figs., **Chow (4)**.

†Lophiodontidae

†*Lunania* **gen. nov.** for type species *L. youngi* **sp. nov.** Eocene, Lunan, Yunnan, p. 205, **Chow (4)**.

Tapiridae

†*Tapirus veroensis* Pleistocene, Florida, descr., **Bader**.

†Hyracodontidae

†*Caenolophus medius* **sp. nov.** Eocene, Lunan, Yunnan, p. 206, **Chow (4)**.

Rhinocerotidae

†*Aceratherium* sp. Pleistocene, Shantung, descr. figs., **Hu**.

†*Baluchitherium grangeri* Oligocene, N. Kansu, descr. figs., **Young & Chow**.

†*Ceratotherium simus* Pleistocene, Morocco, descr. figs., **Ennouchi (2)**.

†*Chilotherium* sp. Pliocene, Sinkiang, tooth descr. figs., **Chow (2)**.

†*Dicerorhinus etruscus* Pleistocene, S. Germany, comparative study, **Lehmann, U. (1)**.

Diceros bicornis erect stance in browsing, **Campbell**; damage to and regrowth of horn, **Jacobi**.

†*Diceros pachygnathus* Pliocene, Austria, descr. figs., **Thenius (1)**.

Didermocerus sumatrensis past and present status in Borneo, survey of rhino artifacts, **Harrisson (1)**.

Rhinoceros sp. status in Kachin State, **Yin**; *R. unicornis* status, habits, photos in Assam, **Talbot (1)**; note on Assam reserve conditions, **Khajuria (1)**; status and numbers in Nepal, **Stracey (2)**; horn structure, **Mohr (4)**; bred in Basel Zoo, **Lang (1)**; bred at Whipsnade, photos, **Anon. (15)**; history of Dürer's woodcut, **Cole, F. J.**

†*Rhinoceros mercki* Pleistocene, Morocco, descr. figs., **Ennouchi (2)**; †*R. tichorhinus* Pleistocene, Manchuria, large skeleton, **Gordeev & Jernakov**.

†*Tongriceros* **gen. nov.** for type species *T. hoeledenensis* **sp. nov.** Oligocene, Hoeleden, near Louvain, Belgium, p. 9, **Misonne (2)**.

ORDER ARTIODACTYLA

Artiodactyles of Morocco, key, characters, habits, distribution, **Panouse**.

Suborder Suiformes

†Dichobunidae

†*Dichobune* cf. *leporina* Oligocene, Belgium, descr. figs., p. 10, **Misonne (2)**.

†Leptochoeridae

Leptochoerid new records from Oligocene and Miocene of S. Dakota, **MacDonald**.

†Entelodontidae

†*Archaeotherium ordosius* **sp. nov.** Oligocene, Lingsu, N. Kansu, pp. 451, 457 (in English), **Young & Chow**.

†*Dinohyus hollandi* Miocene, Texas, recent finds confirm faunal correlation, descr. figs., **Wilson, J. A.**

Suidae

†*Dicoriphochoerus meteai* **nom. nud.** Pliocene, Turkey, p. 43, **Ozansoy (2)**.

Phacochoerus Cuvier (F.) 1826 validation, with specific name *aethiopicus* Pallas, 1766, **Opinion 466**.

†*Phacochoerus venteri* Dreyer and Lyle syn. of *P. aethiopicus* (Pallas), *P. helmei* Dreyer and Lyle valid race of *P. africanus*, **Ewer (1)**.

†*Schizochoerus arambourgi* **nom. nud.** Pliocene, Turkey, p. 43, pl. 1, **Ozansoy (2)**.

Sus habits in Java, **Soepraptomo**; *S. scrofa* distribution in Czechoslovakia, **Janda**; distribution in Archangel region, **Kholostov**; seasonal distribution in Caucasus, relation to nut harvest, **Chernyavskaya**; *S. s. chirodonta* recorded from Yunnan, **Sokolov, I. I.** (2); *S.* dom. variation in lumbar vertebrae numbers, **Lengerken**; pregnancy duration, **Joubert & Bonsma.**

†*Sus erymanthius* Pliocene, Macedonia, descr. figs., **Risto** (1); †*S. tamanensis* **sp. nov.** Pleistocene, Tamansk Peninsula, W. Precaucasus, p. 47, **Vereshchagin** (3).

TAYASSUIDAE

†*Mylohyus* cf. *gidleyi* Pleistocene, Florida, descr. figs., **Bader.**

Pecari tajacu sonoriensis abnormal canine, **Neal & Kirkpatrick.**

†ANOPLOTHERIIDAE

†*Tapirulus* cf. *hyracinus* Oligocene, Belgium, descr. figs., p. 11, **Misonne** (2).

†ANTHRACOTHERIIDAE

†*Anthracothema rubrica* Eocene, Kwangsi, descr. figs., **Chow** (4).

†*Arretotherium fricki* **sp. nov.** Miocene, Box Butte County, Nebraska, p. 53, generic relationships, **Macdonald & Schultz.**

†*Bothriodon* sp. Oligocene, Yunnan, descr. figs., **Chow** (4).

HIPPOPOTAMIDAE

Choeropsis liberiensis carnivorous habits in captivity, **Fooks** (2).

†CAINOTHERIIDAE

†? *Paroxacron* sp. Oligocene, first record for Belgium, **Misonne** (2).

SUBORDER TYLOPODA

CAMELIDAE

Camelus bactrianus mother-young behaviour, **Kraft** (1); *C. b. ferus* present status in Mongolia, distinctive characters, photo, **Montagu**; *C.* dom. water metabolism, **Schmidt-Nielsen**; body temperature and water metabolism, **Schmidt-Nielsen and others**; stomach anatomy, histology of mucous membrane, **Hansen & Schmidt-Nielsen**; physiology, **Pond**; bone of diaphragm, development, morphology and function, **Maskar**; milk analysis, **Grzimek** (8).

Lama glama mother-young behaviour, **Kraft** (1).

†*Tanupolama mirifica* Pleistocene, Florida, descr. figs., **Bader.**

Vicugna vicugna life history, **Koford.**

SUBORDER RUMINANTIA

CERVIDAE

Field guide to British deer, **Page.**

Review of status of deer in Britain, **Whitehead** (1).

Social habits of British deer, **Delap** (1).

Distribution and status of deer in Lakeland, **Delap** (2).

Control of deer in Britain, **Fooks** (1).

Deer damage to forestry, **Chard.**

Deer capturing device, **Ashcraft & Reese.**

Deer using antlers to knock down food, **Steinbacher.**

Phylogeny, ontogenesis and mutation in deer antlers, **Bubenik** (2).

Evolution of upper canines in some deer, **Lehmann, E. v.** (3).

Proposal to validate family-group name Muntiacinae, Pocock 1923, **Morrison-Scott.**

Status of six species of introduced deer in Australia, **Bentley.**

Comparative study of dentition of Miocene and Recent Cervidae of Bavaria, **Obergfell.**

Alces alces adaptive morpho-functional peculiarities of locomotion, **Semenov-Tian-Shansky & Knorre**; history in Ukraine, **Gavrilenko**; food analysis in USSR, **Likhachev**; damage to forestry in Russia, **Dinesman**; *A. a. americana* biology in Ontario, **De Vos** (1); altitudinal and seasonal migration in British Columbia, **Edwards & Ritcey**; history in early Wisconsin, **Schorger.**

†*Alces alces* from Pleistocene, S.W. France, **Astre**; Pleistocene and recent finds in Yugoslavia, **Rakovec.**

†*Axis rugosus* **sp. nov.** Pleistocene, Tongshanchen Basin, southern Shansi, China, p. ?; **Chow (1).**

†*Bachitherium serum* **sp. nov.** Miocene, Wintershof-West, Bavaria, p. 84, **Obergfell.**

Blastocerus valid name for *B. bezoarticus*, **Avila-Pires.**

Capreolus capreolus comparative size in prehistoric and early historic times, **Boessneck (1)**; gestation period, **Ekvtimishvili (2)**; swimming ability, **Gewalt (2)**; in enclosures in Sweden, **Tegner (2)**; record British heads, **Whitehead (3)**; remarkable head, **Anon. (16)**; food analysis in Czechoslovakia, **Mottl**; seasonal distribution in Caucasus, **Chernyavskaya**; introduction to New York, present status, **Manville (2).**

Cervus canadensis postconception ovulation, **Halazon & Buechner**; browsing on vegetation in Banff National Park, ecological study, **Webb, R.**; *C. elaphus* roaring, **Reboussin**; autumn census in Crimea based on count of roaring stags, **Yanushko**; seasonal distribution in Caucasus, **Chernyavskaya**; heavy winter mortality around Swiss National Park, **Burckhardt**; ecology in Bielowicza Reserve, **Bannikov & Lebedeva**; *C. e. brauneri* craniological characters compared with *C. e. maral*, molar wear in relation to age, **Böhme**; *C. e. scoticus* in 1956, growth, weight and measurements, **Whitehead (2)**; preyed on by eagle, **Copeman**; fight to death, **Gordon, W. G.**

Cervus (*Rusa*) *timoriensis* status and distribution in Lesser Sunda Is., **Pfeffer**; *C.* (*R.*) *unicolor unicolor* record Ceylon head, **Fernando**; *C.* (*R.*) *u. dejeani* from Yunnan, descr. figs., **Sokolov, I. I. (2).**

Cervus (*Sika*) *nippon* numbers on Lundy, **Anon. (11).**

†*Cervus* (*Eucladoceros*) *teguliensis* Pleistocene, Holland, new remains, **Kruizinga (2).**

Dama dama recorded at Corbridge, Northumberland, **Tegner (1).**

Edocerus **gen. nov.** for *Cervus dichotomus* Illiger, p. 5, **Avila-Pires.**

Elaphurus davidianus world register of living animals, **Tong**; an early German painting, **Bolle.**

†*Megaceros verticornis* from Pliocene, Suffolk, additional material, **Spencer.**

Moschus moschiferus ecology, moult, reproduction in Altai, **Shaposhnikov (1).**

Muntiacus Rafinesque 1815, with *Cervus muntjak* Zimmermann 1780 as type species, placed on Official List, **Opinion 460**; *M. reevesi* first record Yunnan, **Sokolov, I. I. (2).**

Muntiacus (*Procops*) *feae* first record Yunnan, **Sokolov, I. I. (2).**

Odocoileus hemionus hemionus behaviour in confinement, **Browman & Hudson**; cryptorchid condition, **Beauchamp & Jones**; breeding season of California herds, **Bischoff**; *O. h. californicus* growth analysis, **Mankins & Baker**; *O. h. columbianus* nutrition and population study, **Taber (1)**; ecology and dynamics of three populations in California, **Taber & Dasmann**; population fluctuations in California, **Dasmann**; breeding biology, **Golley (1)**; food habits of Tehama herd, **Leach & Hiehle**; blood chemistry, **Bandy and others**; *O. h.*, *O. virginianus* antlered females, **Buechner**; *O. v.* abnormal dentitions, **Benson**; parturition, and behaviour of new-born young, **Haugen & Speake**; nutrition study, **McEwen and others**; possible identical twins, **McCullough.**

†*Procervulus aurelianensis praelucidus* **subsp. nov.** Miocene, Wintershof-West, Bavaria, p. 81, **Obergfell.**

Rangifer arcticus past and present status, habits, decrease and need for conservation, **Banfield (1)**; investigations in Canadian arctic, **Banfield (2)**; further studies on distribution, reproduction, behaviour, range requirements, human utilization, **Kelsall**; disappearance of shed antlers, **McCabe**; *R. caribou* population study and management on Gaspé Island, Quebec, **Moisan**; *R. tarandus* morphological adaptations to tundra, **Tarasov**; aerial censusing in Alaska, **Watson & Scott**; history, food and habitat in N. America, **Cringan**; progress of Scottish introduction, economic value, **Utsi**; diseases, **Seitz (2).**

†*Stephanocemas thomsoni* Pleistocene, Shantung, descr. figs., **Hu.**

†*Tamanalces* **gen. nov.** for type species *T. caucasicus* **sp. nov.** Pleistocene, Tamansk Peninsula, W. Precaucasus, p. 55, **Vereshchagin (3).**

GIRAFFIDAE

Giraffa camelopardalis breeding and births in Manchester Zoo, **Iles.**

Okapia johnstoni distribution, habits, food analysis, capture, rearing in captivity, pathology, **Landsheere;** vocal ability, **Lang (2).**

†*Palaeotragus hoffstetteri* **nom. nud.** Pliocene, Turkey, p. 43, **Ozansoy (2).**

†*Palaeotragus* (*Achtiaria*) *berislavicus* **sp. nov.** Miocene, Berislav, Kherson Province, Ukraine, p. 129, **Korotkevich.**

†*Samotherium pamiri* **nom. nud.** Pliocene, Turkey, p. 43, **Ozansoy (2).**

ANTILOCAPRIDAE

Antilocapra americana sonoriensis status in S. Arizona and N. Mexico, **Halloran (2).**

BOVIDAE

Social behaviour of sheep and goats compared, **Collias.**

Short review of world cattle, **Hayman (4).**

Palaeogeographic distribution of antelopes, **Wells.**

Pleistocene Bovidae from Makapansgat, Transvaal, **Wells & Cooke.**

Aepyceros melampus petersi status and distribution in S.W. Africa, **Bigalke (1).**

Alcelaphus buselaphus note on probable extinction in Morocco, **Panouse.**

Ammotragus lervia breeding data in captivity, **Seitz (1);** *A. l.* × *Capra hircus* hybrid, **Petzsch (4).**

Bison bison Linnaeus type locality not Mexico but Central Kansas, **Hershkovitz (2);** live and dressed weights, **Halloran (1);** history of Wichita herd, **Halloran (3);** *B. bonasus* past and present status, **Zabinski;** comparative morphology of mouth, **Wilkus;** sacralization of lumbar vertebra, **Pilarski & Roskosz;** breeding data at Munchen-Hellabrunn zoo, **Mohr (5).**

†*Bison alleni* late Pleistocene occurrence in Texas, **Dalquest (2).**

Bos dom. Chillingham herd, history, origin, relationships based on skull study, **Bilton;** studies of herd bull behaviour, **Fraser, A. F. (2);** usefulness as pack and riding animals, **Staffe;** 39-year longevity record, **Matheson;** *B. taurus, B. indicus* intestine differences related to comparative heat tolerance, **Quarterman and others.**

†*Bos primigenius* new finds in Bavarian alluvial, comparative study of skeleton, **Boessneck (2);** mediaeval lore and illustrations, **Kagelmann.**

Bubalus buffalus chromosomes, **Giro lamo.**

Budorcas taxicolor bedfordi captive specimen in Peking, **Bubenik (1).**

Capra review of species, range and horn types, **Haltenorth (2);** *C. aegagrus* breeding season in Georgia, **Ekvtimishvili (1);** *C. severtzovi* gestation period, **Ekvtimishvili (2);** *C.* dom. pattern o rumination behaviour, **Bell & Lawn (1);** stomach anatomy, **Tamate;** feral in Wales, history and status, **Whitehead (4);** feral in Jura, status, **Mitchell.**

†*Capra* (*Ibex*) *iowensis* **sp. nov.** Pleistocene, Quarry, S.E. of Marshalltown, Iowa, p. 451, **Palmer.**

Capricornis sumatrensis note on habits, **Solomon.**

†*Cephalophus pricei* **sp. nov.** Pleistocene, Makapansgat, Potgietersrust, Transvaal, p. 12, **Wells & Cooke.**

†*Damaliscus njarasensis* **sp. nov.** Pleistocene, Mumba Cave, N.E. Lake Eyasi, Tanganyika, p. 118, **Lehmann, U. (2).**

Gazella subgutturosa new to Turkey and Syria, **Misonne (1);** ecology and reproduction, **Sludski;** aerial census in C. Kazakhstan, **Rakov (2);** fossil in Apsheron peninsula, **Alekperova.**

†*Gazella gracilior* **sp. nov.** Pleistocene, Makapansgat, Potgietersrust, Transvaal, p. 37, **Wells & Cooke**; horn-core used as bone dagger, **Dart (1)**; †*G. proatlantica* **nom. nud.** Pliocene, Turkey, p. 42, **Ozansoy (2)**; †*G.* systematic review of N. African Pleistocene forms, *G. tingitana* **sp. nov.** Mugharet el Aliya, Tangier, p. 68, **Arambourg (3)**.

†*Helicotragus incarinatus* **nom. nud.** Pliocene, Turkey, p. 43, **Ozansoy (2)**.

Hemitragus cheek teeth characters of recent and fossil forms, comparison with *Capra*, **Charles**; *H. jemlahicus* juvenile cranial and dental characters, **Biswas & Khajuria**.

†*Leptobos syrticus* **sp. nov.** Pliocene Es-Sahabi, Syrtica, Libya, p. 206, **Petrocchi**.

Limnotragus spekei albino, **Edmond-Blanc (2)**.

Litocranius walleri habitat and habits in Tanganyika, **Milton (2)**; photos of pair in captivity, **Grzimek (4)**.

†*Makapania* **gen. nov.** for type species *M. broomi* **sp. nov.** Pleistocene, Makapansgat, Potgietersrust, Transvaal, p. 26, **Wells & Cooke**.

†*Menelikia lyrocera* raised to rank of tribe, **Lehmann, U. (2)**.

†*Olonbulukia ankarensis* **nom. nud.** Pliocene, Turkey, p. 43, **Ozansoy (2)**.

Oreotragus oreotragus case of partial albinism, **Edmond-Blanc (2)**.

Ovibos moschatus past and present distribution, status, habits, **Pedersen, A. (2)**; introduced herd at Dovrefjell, Norway, **Prag**; first record from Pleistocene of Holland, **Kortenbout van der Sluijs**.

Ovis ammon poli history and habits, **Van Gelder**; *O. canadensis nelsoni* population study in Santa Rosa Mts., California, **Jones and others**; *O.* dom. wear of incisor teeth in New Zealand, **Barnicoat**; blood pressure, **Magarey & Stehbens**.

†*Palaeoreas brachyceras*, *P. elegans*, **nom. nud.** Pliocene, Turkey, p. 43, **Ozansoy (2)**.

Pelea capreolus introduction to Addo National Park, **Anon. (7)**.

†*Phenacotragus vanhoepeni* **sp. nov.** Pleistocene, Makapansgat, Potgietersrust, Transvaal, p. 43, **Wells & Cooke**.

Poephagus grunniens × *Bos taurus* hybrid, **Petzsch (2)**.

†*Pultiphagonides africanus* an alcelaphine, not caprine, p. 26, **Wells & Cooke**.

†*Quirliknoria senyureki* **nom. nud.** Pliocene, Turkey, p. 43, **Ozansoy (2)**.

†*Redunca darti* **sp. nov.** Pleistocene, Makapansgat, Potgietersrust, Transvaal, p. 17, **Wells & Cooke**.

Rhynchotragus kirki habits in captivity, **Ziegler-Simon**.

Rupicapra rupicapra breeding cycle, embryonic development, **Tratz**; parental care of young, **Krammer**; *R. r. pyrenaica* record head from Andorra, **Couturier**.

Saiga tatarica ecology and distribution, **Adolf**; occurrence in Rostov province, **Karasev**; effect of winter of 1953–5 on population and distribution in Pre-Caspian, **Dal and others**; distribution and ecology in W. Kazakhstan, **Rakov (1)**; aerial census in C. Kazakhstan, **Rakov (2)**.

Sylvicapra grimmia carnivorous habits, **Derivot**.

Syncerus caffer attempts at domestication in S. Africa, **Zumpt**; *S. nanus* study of skull and horn variation in French West Africa, **Dekeyser & Derivot**.

Taurotragns oryx attempts at domestication in S. Africa, **Zumpt**.